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LEARNING AND COGNITIVE PERFORMANCE IN ADULTS. BIBLIOGRAPHY.

BY- KUHLEN, RAYMOND G. AND OTHERS

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THIS RETROSPECTIVE BIBLIOGRAPHY OF OVER 1,500 ITEMS IS LARGELY DEVOTED TO VARIOUS TYPES OF ADULT LEARNING AND COGNITIVE BEHAVIOR (CONDITIONING, SKILL LEARNING, DISCRIMINATION, VERBAL LEARNING, PROBLEM SOLVING AND COMPLEX BEHAVIOR, MEMORY, VERBAL BEHAVIOR, AND SET), TO STUDIES ON INTELLIGENCE AND TEST BEHAVIOR (AGE CHANGES, CORRELATIONAL AND FACTOR ANALYTIC RESEARCH, VOCABULARY, BIOLOGICAL INTELLIGENCE, PSYCHOMOTOR TESTS, AND POPULATIONS WITH ORGANIC AND FUNCTIONAL DISORDERS), AND TO THE EFFECTS OF AGING ON PERCEPTION. ALSO REPRESENTED ARE STUDIES OF REACTION TIME, ACHIEVEMENT AND PRODUCTIVITY, AND EDUCATION AND INDUSTRIAL TRAINING, TOGETHER WITH PSYCHOPHYSIOLOGICAL RESEARCH, METHODOLOGICAL PROBLEMS IN AGING RESEARCH, AND BOOKS AND LITERATURE REVIEWS. (LY)

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Learning and Cognitive Performance in Adults

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LEARNING AND COGNITIVE PERFORMANCE IN ADULTS

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Preface

In the process of reviewing literature for a program of research being conducted by the authors a large number of bibliography items were accumulated. Examination of titles and/or published abstracts revealed that although not all items were germane to the research in question, in aggregate they covered the field of adult learning and cognitive performance extensively, if not exhaustively. Most of these items had been painstakingly collected by Professor Raymond G. Kuhlen over a number of years prior to his death in July, 1967. In addition, some entries were identified directly and indirectly through the University of Southern California Bibliography on Learning and Memory in the Mature and Aging Organism prepared by James E. Birren and Dwight W. Jeffrey (August 1966). It was Professor Kuhlen's intention that these items be carefully winnowed and classified, and then be made available to the community of scientists and educators interested in this area of research and application. Although he was unable to see the project through to completion, he did actively participate in adding to the core of items he had accumulated, and personally selected and classified a major portion of the entries. Whatever merit this bibliography has is to be credited to him; whatever errors exist are our responsibility.

Others, in addition to the authors, who participated in preparing the present bibliography were Edward Herbert, David Hultsch, and Wilson Hunt, Jr. This effort was supported by U. S. Office of Education Grant No. OEG-1-7-061963-0149, Project No. 6-1963, to Syracuse University.

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LEARNING AND COGNITIVE BEHAVIOR

CONDITIONING

Apter, N. S. Aging and conditional reflexes. In W. H. Gantt (Ed.), *Physiological Bases of Psychiatry*. Springfield, Ill.: Charles C. Thomas, 1958. Pp. 22-28.

Arnhoff, F. N. Adult age difference in performance on a visual-spatial task of stimulus generalization. *Journal of Educational Psychology*, 1959, 50, 259-265.

Battig, K., & Grandjean, E. Beziehung zwischen Alter und Erlernen einer bedingten Fluchtreaktion bei der Weissen Ratte. *Gerontologia*, 1959, 3, 266-276.

Beck, E. C., Doty, R. W., & Kooi, K. A. Electrocortical reactions associated with conditioned flexion reflexes. *Electroencepholographic and Clinical Neurophysiology*, 1958, 10, 279-289.

Botwinick, J., & Kornetsky, C. Age differences in the frequency of the GSR during a conditioning experiment. *Journal of Gerontology*, 1959, 14, 503 (Abstract).

Btowinick, J., & Kornetsky, C. Age differences in the acquisition and extinction of the GSR. *Journal of Gerontology*, 1960, 15, 83-84.

Braun, H. W., & Geiselhart, R. Age differences in the acquisition and extinction of the conditioned eyelid response. *Journal of Experimental Psychology*, 1959, 57, 386-388.

Brown, C. C. Changes in avoidance conditioning following psychotheraputic treatment. *Journal of Nervous and Mental Diseases*, 1957, 125, 487-489.

Bykov, V. D. On the problem of the rate of formation of conditioned reflexes as an indication of the development of higher nervous activity in ontogenesis. *Zhurnal Vysshei Nervnoi Deiatel'nosti*, 1960, 10, 101-109.

Caird, W. K. Conditioning, learning and reflex excitability in memory disordered geriatric patients. *Proceedings of the 7th International Congress of Gerontology*. Vol. 3. Wien: Wien Medizinischen Akademie, 1966. Pp. 27-34.

Canestrari, R. E. Age differences in spacial stimulus generalization. *Journal of Genetic Psychology*, 1965, 106, 129-135.

Canestrari, R. E., & Eberly, B. W. CS-UCS interval and avoidance conditioning in older subjects. *Newsletter for Research in Psychology*, Veterans Administration Center, Hampton, Virginia, 1964, 6, 4.

Cohen, S. I., & Shmavonian, B. M. Catechol amines, vasomotor conditioning and aging. *The Gerontologist*, 1964, 4 (Part 2), 29 (Abstract).

Coleman, K. K. The modification of rigidity in geriatric patients through operant conditioning. *Dissertation Abstracts*, 1963, 24, 2560-2561.

Corke, P. P. Complex behavior in "old" and "young" rats. *Psychological Reports*, 1964, 15, 371-376.

Cromwell, R. L., Palk, B. E., & Foshee, J. G. Studies in activity level: V. The relationships among eyelid conditioning, intelligence, activity level, and age. *American Journal of Mental Deficiency*, 1961, 65, 744-748.

David, C., & Enachesco, C. Une methode d'investigation de la reactivite psychique complexe chez les vieillands. *Review of Francaise de Gerontology*, 1965, 11, 23-32.

Davidson, P. O., Payne, R. W., & Sloane, R. B. Conditionability and age in human adults. *Psychological Reports*, 1965, 17, 351-354.

Denenberg, V. H. Effects of age and early experience upon conditioning in the C57BL/10 mouse. *Journal of Psychology*, 1958, 46, 211-226.

Denenberg, V. H. A test of the critical period hypothesis and a further study of the relationship between age and conditioning in the C57BL/10 mouse. *Journal of General Psychology*, 1960, 97, 379-384.

Denenberg, V. H., & Kline, N. J. The relationship between age and avoidance learning in the hooded rat. *Journal of Comparative and Physiological Psychology*, 1958, 51, 488-491.

Desroches, H. F., Kimbrell, G. M., & Allison, J. T. Effect of age and experience on bar pressing and activity in the rat. *Journal of Gerontology*, 1964, 19, 168-172.

Dmitriev, A. S., & Semenov, V. N. Age connected characteristics of conditioned reflexes to time factors. *Zhurnal Vysshei Nervnoi Deiatel'nosti*, 1961, 11,723-729.

Doty, B. A. Age and avoidance conditioning in rats. *Journal of Gerontology*, 1966, 21, 287-290.

Doty, B. A. Age differences in avoidance conditioning as a function of distribution of trials and task difficulty. *Journal of Genetic Psychology*, 1966, 109, 249-254.

Doty, B. A., & Doty, L. G. Facilitative effects of amphetamine on avoidance conditioning in relation to age and problem difficulty. *Psychopharmacologia*, 1966, 9, 234-241.

Doty, B. A., & Johnston, M. M. Effect of post-trial esevine administration, age and task difficulty on avoidance conditioning in rats. *Psychonomic Science*, 1966, 6, 101-102.

Federov, V. K. On the physiological mechanism of the diminution of conditioned reflexes due to old age. *Zhurnal Vysshei Nervnoi Deiatel'nosti*, 1954, 4, 568-573.

Franks, C. M. Some fundamental problems in conditioning. *Acta Psychologica*, 1958, 14, 223-246.

Furchtgott, E. Aversive conditioning and heart rate as a function of age in the albino rat. In *Proceedings of the 7th International Congress of* Gerontology. Wien: Wien Medizinischen Akademie, 1966. P. 332.

Furchtgott, E., & Wechkin, S. Avoidance conditioning as a function of prenatal irradiation and age. *Journal of Comparative and Physiological Psychology*, 1962, 55, 69-72.

Goodrick, C. L. Operant level and light-contingent for process as a function of age and deprivation. *Psychological Reports*, 1965, 17, 283-288.

Hecht, K. The age-dependent effect of reserpine (0.1 mg/kg) on the course of conditioned reactions of the first and second order in rats. *Acta Biologica et Medica Germanica*, 1960, 4, 151-158.

Hubbert, H. B. The effect of age on habit formation in the albino rat. *Behavior Monograph*, 1915, 2, 1-55.

Kimble, G. A., & Pennypacker, H. S. Eyelid conditioning in young and aged subjects. *Journal of Genetic Psychology*, 1963, 103, 283-289.

Kirby, R. H. Acquisition, extinction, and retention of an avoidance response in rats as function of age. *Journal of Comparative and Physiological Psychology*, 1963, 56, 158-162.

Korneev, G. Effect of bromine on conditioned and unconditioned reflexes in women during aging processes. *Zhurnal Vysshei Nervnoi Deiatel'nosti*, 1962, 12, 217-222.

Mackay, H. A. Operant techniques applied to disorders of the senium. Unpublished doctoral dissertation, Queen's University, 1965.

Marinesco, G., & Kreindler, A. Des reflexes conditionnels. III. Applications des reflexes conditionnels a certains problems cliniques. *Journal de Psychologie Normale et Pathologique*, 1934, 31, 722-791.

Meier, G. W., Foshee, D. P., Matheny, A. P., Jr., & Carr, F. Irradiation and aging: Behavioral implication. *Radiation Research*, 1962, 16, 130-137.

Mize, D. A. The effects of occipital ablations at various ages on the acquisition of a conditioned avoidance response in the rat. *Dissertation Abstracts*, 1963, 24, 25-78.

Molotkova, I. A. Comparative study of age-linked aspects of conditioned motor reflexes in man with various unconditional reinforcements. In *Physiology and pathology of old age*. Vol. III. Min. Soc. Sec. of the RSFSR Dept. Medico-Vocational Eval., Leningrad, USSR, 1960. Pp. 55-62.

Morrison, D. Age and light deprivation in relation to reinforcing effects of light onset. *Journal of Comparative and Physiological Psychology*, 1965, 60, 432-435.

Nereviatkina, M. A. Nature of conditioned motor reflexes of various types in old dogs. *Fiziologicheskii Zhurnal S.S.S.R.*, 1959, 45, 56-64.

Pavlova, A. M. Conditioned reflexes in senility. *Privoda, Ostrava*, 1940, 29, 65-71.

Pavlova, A. M. Alterations of conditioned reflexes in old age. *Trudy, Fiziologicheskaia Laboratarii Akademika*, 1945, 12, 224-231.

Propp, M. V. Changes in conditioned reflexes and sexual cycle in rats of various ages under the influence of strong stimuli. *Problem Endokr., Gormonoter*, Moskva, 1961, 7, 3-7.

Propp, M. V., & Samtsova, A. V. Changes in conditioned reflex activity in the aging process in maze and the effect of some pharmacological and hormonal factors on these changes. *Nauch. Soobschcheniva Inst. Fiziol. Akad. Nauk. S.S.S.R.*, 1959, 1, 70-71.

Rappaport, A. The use of the need for water as motivation in the conditioning of aged rats. *Gerontologia*, 1963, 7, 160-167.

Rappaport, A. Reaction du rat age a trois tests de conditionnement successifs. *Gerontologia*, 1964, 9, 200-208.

Samtsova, A. V. Influence of testerone propionate on the conditioned and unconditioned reflexes of men from 59 to 72 years old. *Probl. Indokr. Moskva*. 1957, 3, 6-11.

Shmavonian, B. M. Methodological study of vasomotor conditioning in human subjects. *Journal of Comparative and Physiological Psychology*, 1959, 52, 312-321.

Shmavonian, B. M., Miller, L. H., & Cohen, S. I. Age, sex and cognitive variables in autonomic conditioning. In *Proceedings of the 7th International Congress of Gerontology*. Vol. 8. Wien: Wien Medizinischen Akademie, 1966.

Shmavonian, B. M., Yarmat, A. J., & Cohen, S. I. Relationships between the autonomic nervous system and central nervous system in age differences in behavior. In A. T. Welford & J. E. Birren (Eds.), *Behavior, Aging, and the Nervous System*. Springfield, Ill.: Charles C. Thomas, 1965.

Smudski, J. F., & Braun, H. W. Changes in the gradient of visual stimulus generalization as a function of age. *American Psychologist*, 1956, 11, 374. (Abstract)

Solyom, L., & Barik, H. C. Conditioning in senescence and senility. *Journal of Gerontology*, 1965, 20, 483-488.

Solyom, L., & Gallay, H. M. Effect of malononitrile dimer on operant and classical conditioning of aged white rats. *International Journal of Neuropsychiatry*, 1966, 2, 577-584.

Solyom, L., & Miller S. The effect of age differences on the acquisition of operant and classical conditioned responses in rats. *Journal of Gerontology*, 1965, 20, 311-314.

Thompson, R. W., Koenigsberg, L. A., & Tennison, J. C. Effects on age on learning and retention of an avoidance response in rats. *Journal of Comparative and Physiological Psychology*, 1965, 60, 457-459.

Whitman, J. R., Brown, C. L., & Gantt, W. H. Application of conditioning procedures in the study of aging. In *Conditioning techniques in clinical practice and research*. New York: Springer, 1964. Ch. 8.

LEARNING AND COGNITIVE BEHAVIOR

SKILL LEARNING

Bachman, J. C. Influence of age and sex on the amount and rate of learning two motor tasks. Research quarterly American Physical Education Association, 1966, 37, 178-186.

Berg, W. The effect of aging on tactual-motor and visual-motor performance. Dissertation Abstracts, 1964, 25, 3105.

Birren, J. E. The significance of age changes in speed of perception and psychomotor skills. In J. E. Anderson (Ed.), Psychological Aspects of Aging. Washington: American Psychological Association, 1955. Pp. 97-104.

Botwinick, J., & Birren, J. E. A follow-up study of card-sorting performance in elderly men. Journal of Gerontology, 1965, 20, 208-210.

Botwinick, J., & Shock, N. W. Age differences in performance decrement with continuous work. Journal of Gerontology, 1952, 7, 41-46.

Bromley, D. B. Age differences in the Porteus Maze Test. Abstracts, 7th International Congress of Gerontology. Wien: Wien Medizinischen Akademie, 1966. P. 352.

Brown, W. Habit interference in sorting cards. University of California Publications in Psychology, 1914, 1, 269-321.

Bunch, M. E. The acquisition of a perceptual motor skill as a function of age from 10 to 70. In 4th Congress of the International Association of Gerontology. Fidenza, Italy. Tito Mattioli, 1957, 4, 141-143.

Candee, B. H. The relationship of intelligence and age to efficiency in maze learning. Unpublished masters thesis, University of Chicago, 1925.

Clarke, A. D. B., & Cooper, G. M. Age and perceptual-motor transfer of training. Perceptual and Motor Skills, 1964, 19, 849-850.

Downs, S. Age in relation to part and whole learning. Journal of Gerontology, 1965, 20, 479-482.

Downs, S., & Moore, B. "Unlearning" and its relationship to age. Ergonomics, 1964, 7, 419-427.

Griew, S. Complexity of response and time of intiating responses in relation to age. American Journal of Psychology, 1959, 72, 83-88.

Gutman, G. M. The effects of age and extraversion on pursuit rotor reminiscence. Journal of Gerontology, 1965, 20, 346-350.

Kay, H. Learning of a serial task by different age groups. Quarterly Journal of Experimental Psychology, 1951, 3, 166-183.

Kay, H. The effects of position in a display upon problem solving. Quarterly Journal of Experimental Psychology, 1954, 5, 155-169.

Kay, H. The retrieval of information by older subjects. In Proceedings of the 7th International Congress of Gerontology. Vol. 8. Wien: Wien Medizinischen Akademie, 1966. Pp. 7-20.

Lorge, J. Confusion as an aspect of the learning of older adults. *Psychological Bulletin*, 1935, 32, 559. (Abstract)

Mason, W. A., & Harlow, H. F. The effects of age and previous training on patterned-strings performance of rhesus monkeys. *Journal of Comparative and Physiological Psychology*, 1961, 54, 704-709.

McFarland, R. A., Tune, G. S., & Welford, A. T. On the driving of automobiles by older people. *Journal of Gerontology*, 1964, 19, 190-197.

Murrell, K. F. H., & Entwisle, D. G. Age difference in movement pattern. *Nature*, 1960, 185, 948-949.

Myers, G. C. Re-learning after twenty-five years. *Psychological Bulletin*, 1937, 34, 732-733. (Abstract)

Noble, C. E., Baker, B. L., & Jones, T. A. Age and sex parameters in psychomotor learning. *Perceptual and Motor Skills*, 1964, 19, 935-945.

Ramamurti, P. B., & Parameswaran, E. G. A study of bilateral transfer on a mirror drawing task in the old and the young. *Journal of Psychological Research*, 1963, 7, 90-92.

Reed, H. B. C., Jr., & Reitan, R. M. The significance of age in the performance of a complex psychomotor task by brain-damaged and non-brain-damaged subjects. *Journal of Gerontology*, 1962, 17, 193-196.

Roth, E. Lernen in verschiedenen Altersstufen. (Learning at different age levels.) *Zeitschrift fur experimentelle und angewandte Psychologie*, 1961, 8, 409-417.

Roth, E. Motor adaptation functions and age. *Vita Humana*, 1961, 4, 86-111.

Ruch, F. L. The differentiative effect of age upon learning. *Journal of General Psychology*, 1934, 11, 261-286.

Shephard, A. H., Abbey, D. S., & Humphries, M. Age and sex in relation to perceptual-motor performance on several control-display relations on the TCC. *Perceptual and Motor Skills*, 1962, 14, 103-118.

Shephard, A. H. Age and control-display relations as factors in influencing change of performance on a complex perceptual motor task. Paper presented at 6th International Congress of Gerontology, Copenhagen, 1963.

Snoddy, G. S. Learning and stability. *Journal of Applied Psychology*, 1926, 10, 1-36.

Szafran, J., & Welford, A. T. On the relation between transfer and difficulty of initial task. *Quarterly Journal of Experimental Psychology*, 1950, 2, 88-94.

Talland, G. A. Performance studies in human aging and their theoretical significance. *Psychiatric Digest*, 1966, 27, 37-53.

Welford, A. T. Psychomotor performance. In J. E. Birren (Ed.), *Handbook of Aging and the Individual*. Chicago: University of Chicago Press, 1959. Pp. 562-613.

LEARNING AND COGNITIVE BEHAVIOR

DISCRIMINATION

Anderson, J. E., & Smith, A. H. The relation of performance to age and nutritive condition in the white rat. *Journal of Comparative Psychology*, 1932, 13, 409-446.

Bemberg, C. J. Effect of interruption of initial learning upon retention in young, mature, and old rats. *Dissertation Abstracts*, 1964, 25, 612.

Birren, J. E. Age differences in learning a two-choice water maze by rats. *Journal of Gerontology*, 1962, 17, 207-213.

Boman, K., & Jalavisto, E. On weight discrimination in old and young persons. *Acta Physiologica Scandinavica*, 1954, 30, 303-318.

Botwinick, J., Brinley, J. F., & Robbin, J. S. Learning a position discrimination and position reversals by Sprague-Dawley rats of different ages. *Journal of Gerontology*, 1962, 17, 315-319.

Botwinick, J., Brinley, J. F., & Robbin, J. S. Learning and reversing a four-choice multiple Y-maze by rats of three ages. *Journal of Gerontology*, 1963, 18, 279-282.

Crossman, E. R. F. W., & Szafran, J. Changes with age in the speed of information intake and discrimination. In F. Verzar (Ed.), *Experimentelle Alternsforschung*. Basel and Stuttgart: Birkhauser Verlag, 1956. Experentia (Suppl. IV). Pp. 128-134.

Crovitz, E. K. Visual discrimination learning in elderly subjects. *Dissertation Abstracts*, 1964, 3123-3124.

Crovitz, E. K. Reversing a learning deficit in the aged. *Journal of Gerontology*, 1966, 21, 236-238.

Desroches, H. F. Learning and activity: Relationships to longevity in the rat. *Newsletter for Research in Psychology*, Veterans Administration Center, Hampton, Virginia, 1963, 5 (No. 4), 10.

Entwisle, D. G. A preliminary study of age, learning and adaptability in the rat. *Gerontologia*, 1959, 3, 261-265.

Fields, P. E. The age factor in multiple-discrimination learning by white rats. *Journal of Comparative and Physiological Psychology*, 1953, 46, 387-389.

Fitzgerald, R. D., & Davis, R. T. The role of preference and reward in the selection of discriminanda by naive and sophisticated rhesus monkeys. *Journal of General Psychology*, 1960, 97, 227-235.

Fletcher, H. J., & Moubran, J. B. Note on learning in an aged monkey. *Psychological Reports*, 1962, 10, 11-13.

Gilbert, J. G. Age changes in color matching. *Journal of Gerontology*, 1957, 12, 210-215.

Husband, R. W. Certain age effects on maze performance. *Journal of Genetic Psychology*, 1930, 37, 325-328.

Jordan, J., & Sokoloff, B. Air ionization, age and maze learning of rats. *Journal of Gerontology*, 1959, 14, 344-348.

Kay, H., & Sime, M. E. Discrimination learning in old and young rats. Journal of Gerontology, 1962, 17, 75-80.

Landahl, H. D., & Birren, J. E. Effects of age on the discrimination of lifted weights. Journal of Gerontology, 1959, 14, 48-55.

Levinson, B., & Reese, H. W. Patterns of discrimination learning set in preschool children, fifth graders, college freshmen, and the aged. Final Report, 1963, State University of New York at Buffalo, Cooperative Research Project #1059, U. S. Department of Health, Education, and Welfare.

Liu, S. Y. The relation of age to the learning ability of the white rat. Journal of Comparative Psychology, 1928, 8, 75-86.

Mayer, B. A., & Stone, C. P. The relative efficiency of distributed and massed practice in maze learning by young and adult albino rats. Journal of Genetic Psychology, 1931, 39, 28-49.

McGaugh, J. L., & Cole, J. M. Age and strain differences in the effect of distribution of practice on maze learning. Psychonomic Science, 1965, 2, 253-254.

McNemar, Q., & Stone, C. P. Studies of animal retention. I. Notes on the relearning of a multiple-T maze by albino rats. Journal of Genetic Psychology, 1931, 39, 135-156.

Meier, G. W. Differences in maze performances as a function of age and strain of house mice. Journal of Comparative and Physiological Psychology, 1964, 58, 418-422.

Meier, G. W., & Foshee, D. P. Genetics, age, and the variability of learning performances. Journal of Genetic Psychology, 1963, 102, 267-275.

Meier, G. W., Foshee, D. P., Matheny, A. P., Jr., & Carr, F. Irradiation and aging: Behavioral implication. Radiation Research, 1962, 16, 130-137.

Olsen, I. A. Discrimination of auditory information as related to aging. Journal of Gerontology, 1965, 20, 394-397.

Rabbitt, P. M. A., & Rogers, M. Age and choice between responses in a self-paced repetitive task. Ergonomics, 1965, 8, 435-444.

Smith, H. C. Age differences in color discrimination. Journal of General Psychology, 1943, 29, 191-226.

Stone, C. P. The age factor in animal learning. I. Rats in the problem box and the maze. Genetic Psychology Monograph, 1929, 5, 1-130.

Stone, C. P. The age factor in animal learning. II. Rats on a multiple light discrimination box and a difficult maze. Genetic Psychology Monograph, 1929, 6, 125-202.

Stone, C. P., & Commius, W. D. The effect of castration at various ages upon the learning ability of male albino rats. II. Relearning after an interval of one year. Journal of Genetic Psychology, 1936, 48, 20-28.

Streimer, I. Age and sex as factors in ability of adults to discriminate saturation differences in the colors cyan and yellow. Dissertation Abstracts, 1960, 20, 3863.

Tachibana, K. Experimental study of maze learning of the aged. Journal of Psychology, 1931, 6, 207-222.

Tattan, J. V. Effects of electroschock convulsions on learning in rats as a function of age. Journal of Comparative and Physiological Psychology, 1957, 50, 405-407.

Tryon, R. C. Studies in individual differences in maze ability. II. The determination of individual differences by age, weight, sex and pigmentation. Journal of Comparative Psychology, 1931, 12, 1-22.

Wendt, D. Eine tachistoskopishe untersuchung an alterer Menschen und einer jungeren Kontrollgruppe mit verbatem Neizmaterial aus dem Synonym test von Dr. K. Riegel. Dipl. Psych. Diss., University of Hamburg, 1959.

Yerkes, R. M. Modifiability of behavior in its relation to the age and sex of the dancing mouse. Journal of Comparative Neurology and Psychology, 1909, 19, 237-271.

LEARNING AND COGNITIVE BEHAVIOR

VERBAL LEARNING

Arenberg, D. Anticipation interval and age differences in verbal learning. *Journal of Abnormal Psychology*, 1965, 70, 419-425.

Arenberg, D. Age differences in retroaction. *Journal of Gerontology*, 1967, 22, 88-91.

Arenberg, D. Verbal learning and retention. *The Gerontologist*, 1967, 7, 10-13.

Belbin, E., & Downs, S. Teaching paired associates: The problem of age. *Occupational Psychology*, 1966, 40, 67-74.

Braun, H. W. Age differences in transfer and retroaction of verbal learning. In *4th Congress of the International Association of Gerontology*. Vol. 4. Fidenza, Italy: Tito Mattioli, 1957. Pp. 136-140.

Caird, W. K., Sanderson, R. E., & Inglis, J. Cross-validation of a learning test for use with elderly psychiatric patients. *Journal of Mental Science*, 1962, 108, 368-370.

Canestrari, R. E., Jr. Paced and self-paced learning in young and elderly adults. *Journal of Gerontology*, 1963, 18, 165-168.

Canestrari, R. E., Jr. The relationship of vigilance to paced and self-paced learning in young and elderly adults. *Dissertation Abstracts*, 1963, 24, 2130-2131.

Canestrari, R. E., Jr. Age differences in paired associate learning as a function of response pretraining. *The Gerontologist*, 1964, 4, 38. (Abstract)

Canestrari, R. E., Jr. The effect of paced and self-paced paired-associate learning on retention in elderly subjects. *Newsletter for Research in Psychology*. Hampton, Va.: Veterans Administration Center, 1965, 7 (No. 2), 14.

Canestrari, R. E., Jr. The effects of commonality on paired associate learning in two age groups. *Journal of Genetic Psychology*, 1966, 108, 3-7.

Cheydleur, F. D. An experiment in adult learning of French at the Madison Wisconsin Vocational School. *Journal of Educational Research*, 1932, 26, 259-275.

Chown, S., Belbin, E., & Downs, S. Programmed instruction as a method of teaching paired associates to older learners. *Journal of Gerontology*, 1967, 22, 212-219.

Crovitz, E. K. Rote learning in the aged. Unpublished master's thesis, Duke University, 1960.

Davis, H. S. Age differences in learning and retention of verbal material. Unpublished master's thesis, Duke University, 1960.

Desroches, H. F., Kaiman, B. D., & Ballard,H. T. Relationship between age and recall of meaningful material. *Psychological Reports*, 1966, 18, 920-922.

Eisdorfer, C. The effects of increasing exposure interval on verbal (rote) learning in the aged. Paper presented at the 6th International Congress of Gerontology, Copenhagen, Denmark, 1963.

Eisdorfer, C. Verbal learning and response time in the aged. *Journal of Genetic Psychology*, 1965, 107, 15-22.

Eisdorfer, C. Psychophysiological aspects of learning in the aged: A tentative theory. Paper presented at the National Conference Manpower Training and the Older Worker; Washington, January 1966.

Eisdorfer, C. New dimensions and a tentative theory. *The Gerontologist*, 1967, 7, 14-18.

Eisdorfer, C., Axelrod, S., & Wilkie, F. L. Stimulus exposure time as a factor in serial learning in an aged sample. *Journal of Abnormal and Social Psychology*, 1963, 67, 594-600.

Eisdorfer, C., & Service, C. The effects of pace of verbal rote learning on intellectually superior adults. *The Gerontologist*, 1966, 6 (Part II), 27. (Abstract)

Eisdorfer, C., & Service, C. Verbal rote learning and superior intelligence in the aged. *Journal of Gerontology*, 1967, 22, 158-161.

Eisdorfer, C., Troyer, W. G., Jr., & Bogdonoff, M. D. Verbal learning and physiologic response in the aged. In *Proceedings of the 7th International Congress of Gerontology*, Vol. 6. Wien: Wien Medizinischen Akademie, 1966. Pp. 115-118.

Eisdorfer, C., Wilkie, F., & Axelrod, S. Rate of stimulus presentation as a factor in serial learning in an aged population. *Journal of Gerontology*, 1961, 16, 400.

Gladis, M. Age differences in retroactive inhibition as a function of the degree of similarity of meaning between the original and interpolated learning. *Dissertation Abstracts*, 1957, 17, 175-176.

Gladis, M. Age differences in repeated learning tasks in schizophrenic subjects. *Journal of Abnormal & Social Psychology*, 1964, 68, 437-441.

Gladis, M., & Braun, H. W. Age differences in transfer and retroaction as a function of intertask response similarity. *Journal of Experimental Psychology*, 1958, 55, 25-30.

Hill, L. B. A second quarter century of delayed recall or relearning at 80. *Journal of Educational Psychology*, 1957, 48, 65-68.

Hulicka, I. M. Age differences for intentional and incidental learning and recall scores. *Journal of American Geriatic Society*, 1965, 13, 639-649.

Hulicka, I. M. Age differences in retention as a function of interference. *Journal of Gerontology*, 1967, 22, 180-184.

Hulicka, I. M., & Grossman, J. L. Age-group comparisons for the use of mediators in paired associate learning. *Journal of Gerontology*, 1967, 1, 46-51.

Hulicka, I. M., & Rust, L. D. Age related retention deficit as a function of learning. *Journal of American Geriatic Society*, 1964, 12, 1061-1065.

Hulicka, I. M., Sterns, H., & Grossman, J. Age group comparisons of paired-associate learning as a function of paced and self-paced association and response times. *Journal of Gerontology*,1967, 22, 274-280.

Hulicka, I. M., & Weiss, R. L. Age differences in retention as a function of learning. *Journal of Consulting Psychology*, 1965, 29, 125-129.

Inglis, J. An experimental study of learning and "memory function" in elderly psychiatric patients. *Journal of Mental Science*, 1957, 103, 796-803.

Inglis, J. A paired-associate learning test for use with elderly psychiatric patients. *Journal of Mental Science*, 1959, 105, 440-443.

Inglis, J. Learning, retention, and conceptual usage in elderly patients with memory disorder. *Journal of Abnormal and Social Psychology*, 1959, 59, 210-215.

Inglis, J., & Ankus, M. N. Effects of age on short-term storage and serial rote learning. *British Journal of Psychology*, 1965, 56, 183-195.

Isaacs, B. A preliminary evaluation of a paired-associate verbal learning test in geriatric practice. *Gerontologia Clinic*, 1962, 4, 43-55.

Kausler, D. H. Comparison of anticipation and recall methods for geriatric subjects. *Psychological Reports*, 1963, 13, 702.

Knill, F. P., Jr. The effect of visual and verbal mnemonic devices on paired associate learning of an aged population. *Newsletter for Research in Psychology*. Hampton, Va.: Veterans Administration Center, 1966, 8 (No. 3), 22-23.

Korchin, S. J., & Basowitz, H. Age differences in verbal learning. *Journal of Abnormal and Social Psychology*, 1957, 54, 64-69.

Laurence, M. W. Presentation rate and age effects on paired associate recall over very brief interals. *Psychonomic Science*, 1966, 6, 185-186.

Moore, B. M. Age and error in a rote learning task. *Ergonomics*, 1965, 8, 305-314.

Powell, A. H., Eisdorfer, C., & Bogdonoff, M. D. Physiologic response patterns observed in a learning task. *Archives of General Psychiatry*, 1964,10, 192-195.

Riegel, K. F. Speed of verbal performance as a function of age and set: a review of issues and data. In A. T. Welford & J. E. Birren (Eds.), *Behavior, aging, and the nervous system*. Springfield, Ill.: Charles C. Thomas, 1965. Pp. 150-190.

Riegel, K. F., Riegel, R. M., & Wendt, D. Perception and set: A review of the literature and a study of the effect of instructions and verbal habits on word recognition thresholds of young and old subjects. *Acta Psychologica*, 1962, 20, 224-251.

Robertson, J. P. S. Age, vocabulary, anxiety, and brain damage as factors in verbal learning. *Journal of Consulting Psychology*, 1957, 21, 179-182.

Roth, E. Lernen in verschiedenen Altersstufen. (Learning at different age levels.) *Zeitschrift fur experimentelle und angewandte Psychologie*, 1961, 8, 409-417.

Ruch, F. L. The differentiative effect of age upon learning. Journal of General Psychology, 1934, 11, 261-286.

Sorenson, H. Adult ages as a factor in learning. Journal of Educational Psychology, 1930, 21, 451-459.

Thompson, L. W., & Obrist, W. D. EEG correlates of verbal learning and overlearning. Electroencephalography & Clinical Neurophysiology, 1964, 16, 332-342.

Thompson, L. W., & Thompson, V. D. Comparison of EEG changes in learning and overlearning of nonsense syllables. Psychological Reports, 1965, 16, 339-344.

Thompson, L. W., & Wilson, S. W. Electrocortical reactivity and learning in the elderly. Journal of Gerontology, 1966, 21, 45-51.

Troyer, W. G., Jr., Eisdorfer, C., Bogdonoff, M. D., & Wilkie, F. Experimental stress and learning in the aged. Journal of Abnormal Psychology, 1967, 72, 65-70.

Troyer, W. G., Jr., Eisdorfer, C., Wilkie, F., & Bogdonoff, M. D. Free fatty acid responses in the aged individual during performance of learning tasks. Journal of Gerontology, 1966, 21, 415-419.

Walton, D. The diagnostic and predictive accuracy of the modified word learning test in psychiatric patients over 65. Journal of Mental Science, 1958, 104, 1119-1122.

Warshaw, L. Mental set in social learning and forgetting. Psychological Newsletter, 1952, 35, 1-21.

Worcester, D. A. Learning ability and retention after long periods. Journal of Educational Psychology, 1957, 48, 505-509.

Wywrocki, E. H., & Braun, H. W. Age differences in retroactive inhibition as a function of the degree of serial position between the original and interpolated learning. Paper read at the meeting of the Eastern Psychological Association, New York, April, 1957.

LEARNING AND COGNITIVE BEHAVIOR

PROBLEM SOLVING AND COMPLEX LEARNING

Anderson, J. E., & Smith, A. H. The relation of performance to age and nutritive condition in the white rat. *Journal of Comparative Psychology*, 1932, 13, 409-446.

Annett, M. The classification of instances of four common class concepts by children and adults. *British Journal of Educational Psychology*, 1959, 29, 223-236.

Belbin, E., Belbin, R. M., & Downs, S. Age and translation process. *Bulletin de l'Association Internationale de Psychologie Applique*, 1966, 15, 39-46.

Birren, J. E., Allen, W. R., & Landau, H. G. Speed, accuracy, and difficulty. The Psychometric Laboratory. The University of Chicago, May, 1952, No. 76.

Birren, J. E., Allen, W. R., & Landau, H. G. The relation of problem length in simple addition to time required, probability of success, and age. *Journal of Gerontology*, 1954, 9, 150-161.

Birren, J. E., & Botwinick, J. Rate of addition as a function of difficulty and age. *Psychometrika*, 1951, 16, 219-232.

Birren, J. E., Jerome, E. A., & Chown, S. Aging and psychological adjustment: Problem solving and motivation. *Review of Educational Research*, 1961, 31, 487-499.

Bromley, D. B. Some experimental tests of the effect of age on creative intellectual output. *Journal of Gerontology*, 1956, 11, 74-82.

Bromley, D. B. Some effects of age on the quality of intellectual output. *Journal of Gerontology*, 1957, 12, 318-323.

Bromley, D. B. Aging and intellect: A non-parametric study of age differences in intellectual functions making special reference to conceptual thought and to rank order cluster analysis. Unpublished doctoral thesis, University of Liverpool, 1962.

Bromley, D. B. Age differences in conceptual abilities. In R. H. Williams, C. Tibbitts & W. Donahue (Eds.), *Processes of aging*. Vol. I. New York: Atherton Press, 1963. Pp. 96-112.

Bromley, D. B. Age and sex differences in the serial production of creative conceptual responses. *Journal of Gerontology*, 1967, 22, 32-42.

Canestrari, R. E. Age changes in acquisition: Theoretical and methodological issues. Paper presented at the 18th Annual Meeting of the Gerontological Society, Los Angeles, California, November 11-13, 1965.

Carlson, E. R. Generality of order of concept attinment. *Psychological Reports*, 1962, 10, 375-380.

Chen, H. C. Capacity to learn of an aged person. *Chinese Journal of Psychology*, 1923, 2, 11.

Chown, S., & Stewart, D. J. Age and programmed learning. In P. F. Hansen (Ed.), *Age with a future*. Proceedings of the 6th International Congress of Gerontology. Copenhagen, Denmark: Munksgaard, 1964. Pp. 438-442.

Cijfer, E. An experiment of some differences in logical thinking between Dutch medical people under and over the age of 35: A replication experiment. *Acta Psychologica*, 1966, 25, 159-171.

Clay, H. M. Changes of performance with age on similar tasks of varying complexity. *British Journal of Psychology*, 1954, 45, 7-13.

Clay, H. M. An age difficulty in separating spatially contiguous data. *Journal of Gerontology*, 1956, 11, 318-322.

Clay, H. M. Age changes in problem-solving tasks. In *4th Congress of the International Association of Gerontology*. Fidenza, Italy: Tito Mattiolli, 1957, 1, 309-313.

Clay, H. M. The relationship between time, accuracy, and age on similar tasks of varying complexity. *Gerontologia*, 1957, 1, 41-49.

Comalli, P. E., Jr. Cognitive functioning in a group of 80-90 year old men. *Journal of Gerontology*, 1965, 20, 14-17.

Comalli, P. E., Jr., Krus, D. M., & Wapner, S. Cognitive functioning in two groups of aged, one institutionalized, the other living in the community. *Journal of Gerontology*, 1965, 20, 9-13.

Comalli, P. E., Jr., Wapner, S., & Werner, H. Interference effects of Stroop Color-Word Test in childhood, adulthood, and aging. *Journal of Genetic Psychology*, 1962, 100, 47-53.

Comalli, P. E., Jr. Interference effects of Stroop color-word test in two groups of aged, one institutionalized and the other living in the community. *American Psychologist*, 1960, 15, 407. (Abstract)

Cowen, E. L., Wiener, M., & Hess, J. Generalization of problem-solving rigidity. *Journal of Consulting Psychology*, 1953, 17, 100-103.

Dennis, W. Regression to childhood concepts in old age. *American Psychologist*, 1948, 3, 308. (Abstract)

Dennis, W., & Mallinger, B. Animism and related tendencies in senescence. *Journal of Gerontology*, 1949, 4, 218-221.

Fattu, N. A., Kapos, E., & Mech, E. V. Problem solving: A statistical description of some relationships between organismic factors and selected response measures. *Genetic Psychology Monographs*, 1954, 50, 141-185.

Glass, B. A study of concept formation in schizophrenics and non-psychotics: A comparison of the concept formation of two hospitalized groups of schizophrenics with varying durations of illness and non-psychotics in two different age groups. *Dissertation Abstracts*, 1956, 16, 1945.

Griew, S. The learning of statistical structure: A preliminary study in relation to age. In C. Tibbitts & W. Donahue (Eds.), _Social and Psychological Aspects of Aging_. New York: Columbia University Press, 1962. Pp. 764-769.

Hanson, D. A. The influence of age and sex on 'reasoning.' _Journal of Experimental Biology_, 1949, 26, 317-326.

Heglin, H. J. Problem solving set in different age groups. _Dissertation Abstracts_, 1955, 15, 1648.

Heglin, H. J. Problem solving set in different age groups. _Journal of Gerontology_, 1956, 11, 310-317.

Heron, A., & Craik, F. Age differences in cumulative learning of meaningful and meaningless material. _Scandinavian Journal of Psychology_, 1964, 5, 209-217.

Hulicka, I. M. Short term learning retention efficiency as a function of age, health, and type of task. Presented at the meeting of the Eastern Psychological Association, Philadelphia, Pa., April, 1964.

Inglis, J. Psychological investigations of cognitive deficit in elderly psychiatric patients. _Psychological Bulletin_, 1958, 55, 197-214.

Inglis, J., & Ankus, M. N. Learning processes and memory function. Paper presented at American Psychological Association, a Symposium on Mechanisms and Disturbances of Memory, Los Angeles, California, 1964.

Jerome, E. A. Solution of logical analysis problems by young and old subjects. Paper presented at 5th International Conference of Gerontology, San Francisco, 1960.

Jerome, E. A. Decay of heuristic processes in the aged. In C. Tibbitts & W. Donahue (Eds.), _Social and psychological aspects of aging_. New York: Columbia University Press, 1962. Pp. 808-823.

Kay, H. Learning of a serial task by different age groups. _Quarterly Journal of Experimental Psychology_, 1951, 3, 166-183.

Kay, H. Experimental studies of adult learning. Unpublished doctoral thesis, Cambridge University, 1953.

Kay, H. The effects of position in a display upon problem solving. _Quarterly Journal of Experimental Psychology_, 1954, 5, 155-169.

Kay, H. Adult learning and remembering. In B. A. Farrel (Ed.), _Experimental psychology_. New York: Philosophical Library, 1955. Pp. 13-23.

Kay, H. Some experiments on adult learning. In _Old age in the modern world_. London: E. & S. Livingstone, 1955. Pp. 259-267.

Krugman, A. D., Ross, S., Vicino, F. L., & Clyde, D. J. A research note: Effects of dextro-amphetamine and meprobamate on problem solving and mood of aged subjects. _Journal of Gerontology_, 1960, 15, 419-420.

Laurence, M. W. Age differences in performance and subjective organization in the free-recall learning of pictorial material. _Canadian Journal of Psychology_, 1966, 20, 388-399.

Maier, N. R. F. Age and intelligence in rats. *Journal of Comparative Psychology*, 1932, 13, 1-6.

Nyman, A. J. Problem solving in rats as a function of experience at different ages. *Dissertation Abstracts*, 1966, 26, 4094.

Rabbitt, P. M. Grouping of stimuli in pattern recognition as a function of age. *Quarterly Journal of Experimental Psychology*, 1964, 16, 172-176.

Rich, T. A. Perceptual after-effects, learning and memory in an aged group. *Dissertation Abstracts*, 1958, 18, 311-312.

Rosenzweig, M. R., Bennett, E. L., & Krech, D. Cerebral effects of environmental complexity and training among adult rats. *Journal of Comparative and Physiological Psychology*, 1964, 57, 438-439.

Ross, S., Vicino, F. L., & Krugman, A. D. Effects of position in a display on problem-solving ability in aged subjects. *Journal of Gerontology*, 1960, 15, 191-194.

Ruch, F. L. Adult learning. *Psychological Bulletin*, 1933, 30, 387-414.

Ruch, F. L. The differentiative effect of age upon learning. *Journal of General Psychology*, 1934, 11, 261-286.

Sanders, S., Laurendeau, M., & Bergeron, J. Aging and the concept of space: The conservation of surfaces. *Journal of Gerontology*, 1966, 21, 281-286.

Schaie, K. W. A field-theory approach to age changes in cognitive behavior. *Vita Humana*, 1962, 5, 129-141.

Schaie, K. W., & Strother, C. R. A cross-sequential study of age changes in cognitive behavior. Paper read at the meeting of the Midwestern Psychological Association, St. Louis, April-May, 1964.

Schneider, Arnold. *A statistical study of the learning ability of men as it relates to age, education, and intelligence with particular reference to bookkeeping and clerical procedures*. Stillwater, Okla: Oklahoma Agricultural & Mechanical College, 1948.

Sherwood, S. Sociological aspects of learning and memory. *The Gerontologist*, 1967, 7, 19-23.

Sime, M. E., & Kay, H. Interproblem interference and age. *Journal of Gerontology*, 1962, 17, 81-87.

Sjogren, D. D., & Knox, A. B. The influence of speed and prior knowledge and experience on adult learning. 1965, University of Nebraska, Lincoln, Nebraska, Cooperative Research Project No. 2233, U. S. Department of Health, Education, and Welfare.

Speakman, D. The effects of age on the incidental relearning of stamp values: The use of deduction in a subsidiary test. *Journal of Gerontology*, 1954, 9, 162-167.

Stone, C. P. The age factor in animal learning. I. Rats in the problem box and the maze. *Genetic Psychology Monographs*, 1929, 5, 1-130.

Tachibana, K. On learning process of the aged. Japanese Journal of Psychology, 1927, 2, 45-63.

Talland, G. A. Effect of aging on the formation of sequential and spatial concepts. Perceptual and Motor Skills, 1961, 13, 210.

Uhlmann, F. W., & Saltz, E. Retention of anxiety material as a function of cognitive differentiation. Journal of Personality and Social Psychology, 1965, 1, 55-62.

Verzar-McDougall, J. Studies in learning and memory in ageing rats. Gerontologia, 1957, 1, 65-85.

Wallach, M. A., & Gahm, R. Effects of anxiety level and extroversion-introversion on probability learning. Psychological Reports, 1960, 7, 387-398.

Wallach, M. A., & Kogan, N. Aspects of judgment and decision making: Interrelationships and changes with age. Behavioral Science, 1961, 6, 23-36.

Weiss, R. Age differences in memory as a function of learning. Presented at the meeting of the Eastern Psychological Association, New York, April, 1963.

Welford, A. T. Ageing and human skill. London: Oxford University Press, 1958.

Wetherick, N. E. A comparison of the problem-solving ability of young, middle-aged and old subjects. Gerontologia, 1964, 9, 164-178.

Wetherick, N. E. Changing an established concept: A comparison of the ability of young, middle-aged and old subjects. Gerontologia, 1965, 11, 82-95.

Wetherick, N. E. Problem solving ability and age in the normal human adult. Unpublished doctoral thesis, University of Liverpool, 1965.

Wetherick, N. E. The inferential basis of concept attainment. British Journal of Psychology, 1966, 57, 61-69.

Wiersma, W., & Klausmeier, H. J. The effect of age upon speed of concept attainment. Journal of Gerontology, 1965, 20, 398-400.

Willoughby, R. R. Incidental learning. Journal of Educational Psychology, 1930, 21, 12-23.

Wimer, R. E. Learning and retention in old age. Unpublished doctoral dissertation, McGill University, 1958.

Wimer, R. E. Age differences in incidental and intentional learning. Journal of Gerontology, 1960, 15, 79-82.

Young, M. L. Problem solving performance in two age groups. Journal of Gerontology, 1966, 21, 505-509.

Maier, N. R. F. Age and intelligence in rats. *Journal of Comparative Psychology*, 1932, 13, 1-6.

Nyman, A. J. Problem solving in rats as a function of experience at different ages. *Dissertation Abstracts*, 1966, 26, 4094.

Rabbitt, P. M. Grouping of stimuli in pattern recognition as a function of age. *Quarterly Journal of Experimental Psychology*, 1964, 16, 172-176.

Rich, T. A. Perceptual after-effects, learning and memory in an aged group. *Dissertation Abstracts*, 1958, 18, 311-312.

Rosenzweig, M. R., Bennett, E. L., & Krech, D. Cerebral effects of environmental complexity and training among adult rats. *Journal of Comparative and Physiological Psychology*, 1964, 57, 438-439.

Ross, S., Vicino, F. L., & Krugman, A. D. Effects of position in a display on problem-solving ability in aged subjects. *Journal of Gerontology*, 1960, 15, 191-194.

Ruch, F. L. Adult learning. *Psychological Bulletin*, 1933, 30, 387-414.

Ruch, F. L. The differentiative effect of age upon learning. *Journal of General Psychology*, 1934, 11, 261-286.

Sanders, S., Laurendeau, M., & Bergeron, J. Aging and the concept of space: The conservation of surfaces. *Journal of Gerontology*, 1966, 21, 281-286.

Schaie, K. W. A field-theory approach to age changes in cognitive behavior. *Vita Humana*, 1962, 5, 129-141.

Schaie, K. W., & Strother, C. R. A cross-sequential study of age changes in cognitive behavior. Paper read at the meeting of the Midwestern Psychological Association, St. Louis, April-May, 1964.

Schneider, Arnold. *A statistical study of the learning ability of men as it relates to age, education, and intelligence with particular reference to bookkeeping and clerical procedures*. Stillwater, Okla: Oklahoma Agricultural & Mechanical College, 1948.

Sherwood, S. Sociological aspects of learning and memory. *The Gerontologist*, 1967, 7, 19-23.

Sime, M. E., & Kay, H. Interproblem interference and age. *Journal of Gerontology*, 1962, 17, 81-87.

Sjogren, D. D., & Knox, A. B. The influence of speed and prior knowledge and experience on adult learning. 1965, University of Nebraska, Lincoln, Nebraska, Cooperative Research Project No. 2233, U. S. Department of Health, Education, and Welfare.

Speakman, D. The effects of age on the incidental relearning of stamp values: The use of deduction in a subsidiary test. *Journal of Gerontology*, 1954, 9, 162-167.

Stone, C. P. The age factor in animal learning. I. Rats in the problem box and the maze. *Genetic Psychology Monographs*, 1929, 5, 1-130.

LEARNING AND COGNITIVE BEHAVIOR

MEMORY

Aaronson, B. S. Age, intelligence, aphasia and the spiral after-effect in an epileptic population. *Journal of Clinical Phychology*, 1958, 14, 18-21.

Allison, R. S. Changes in behavior and impairment of memory and intellect in later life. *Geriatics*, 1955, 10, 306-310.

Allison, R. S. Chronic amnesic syndromes in the elderly. *Proceedings of the Royal Society of Medicine*, 1961, 54, 961-965.

Balmes, A., Dauverchain, J., & Dumas, A. Memory disturbances in the aged. *Revue Francais de Gerontologie*, 1962, 8, 502-5-5.

Baumgartner, P. On the ageing of the memory and its re-training possibilities. *Gazette Medicale de France*, 1962, 69, 1675-1684.

Bemberg, C. J. Effect of interruption of initial learning upon retention in young, mature, and old rats. *Dissertation Abstracts*, 1964, 25, 612.

Broadbent, D. E., & Gregory, M. Some confirmatory results on age differences in memory for simultaneous stimulation. *British Journal of Psychology*, 1965, 56, 77-80.

Broadbent, D. E., & Heron, A. Effects of a subsidiary task on performance involving immediate memory by younger and older men. *British Journal of Psychology*, 1962, 53, 189-198.

Bromley, D. B. Some effects of age on short-term learning and remembering. *Journal of Gerontology*, 1958, 13, 398-406.

Brown, J. An experimental study of immediate memory. Unpublished thesis, Cambridge University Library, 1955.

Butler, R. N. Recall in retrospection. *Journal of American Geriatics Society*, 1963, 11, 523-529.

Caird, W. K. Short term storage in the senium. Unpublished doctoral dissertation, Queens University, 1963.

Caird, W. K. Reverberatory activity and memory disorder. *Nature*, 1964, 201, 1150.

Caird, W. K. Memory disorder and psychological test performance in aged psychiatric patients. *Diseases of the Nervous System*, 1965, 26, 499-505.

Caird, W. K. Aging and short-term memory. *Journal of Gerontology*, 1966, 21, 295-299.

Caird, W. K. Conditioning, learning and reflex excitability in memory disordered geriatric patients. In *Proceedings of the 7th International Congress of Gerontology*. Vol. 3. Wien: Wien Medizinischen Akademie, 1966. Pp. 27-34.

Caird, W. K. Memory loss in the senile psychoses: Organic or psychogenic? *Psychological Reports*, 1966, 18, 788-790.

Caird, W. K., & Hannah, F. Short term memory disorder in elderly psychiatric patients. *Diseases of the Nervous System*, 1964, 25, 564-568.

Caird, W. K. & Inglis, J. The short-term storage of auditory and visual two-channel digits by elderly patients with memory disorder. *Journal of Mental Science*, 1961, 107, 1062-1069.

Caird, W. K., Laverty, S. G., & Inglis, J. Sedation and sleep thresholds in elderly patients with memory disorder. *Gerontologia Clinica,* 1963, 5, 55-62.

Cameron, D. E. Certain aspects of defects of recent memory in psychosis of the senium. *Archives of Neurology and Psychiatry*, 1940, 43, 987-992.

Cameron, D. E. Impairment of the retention phase of remembering. *Psychiatric Quarterly*, 1943, 17, 395-404.

Cameron, D. E. The use of nucleic acid in aged patients with memory impairment. *American Journal of Psychiatry*, 1958, 114, 943.

Cameron, D. E. Remembering in the aged. *Excerpta Medica*, 1959, 2 (Sec. 20), 467-469.

Cameron, D. E., & Solyom, L. Effects of ribonucleic acid on memory. *Geriatrics*, 1961, 16, 74-81.

Cameron, D. E., Solyom, L., & Beach, L. Further studies upon the effects of the administration of ribonucleic acid in aged patients suffering from memory (retention) failure. In E. Rothlin (Ed.), *Neuropsychopharmacology*. Vol. 2. Amsterdam: Elsevier Publishing Co., 1961. Pp. 351-355.

Cameron, D. E., Solyom, L., Sved, S., & Wainrib, B. Effects of intravanous administration of ribonucleic acid upon failure of memory for recent events in presenile and aged individuals. In J. Wortis (Ed.), *Recent advances in biological psychiatry*. Vol. 5. New York: Plenum Press, 1963.

Cameron, D., Sved, S., Solyom, L., Wainrib, B., & Barik, H. Effects of ribonucleic acid on memory defect in the aged. *American Journal of Psychiatry*, 1963, 120, 320-325.

Craik, F. I. M. The nature of the age decrement in performance of dichotic listening tasks. *Quarterly Journal of Experimental Psychology*, 1965, 17. 227-240.

Dent, R. W. Memory and the aging process. *Bulletin of the Maritime Psychological Association*, 1956, 5, 12-15.

Doty, B. A., & Doty, L. A. Effect of age and chlorpromazine on memory consolidation. *Journal of Comparative and Physiological Psychology*, 1964, 57, 331-334.

Drietomszky, E. I. Contribution to the inter-relations of memory and imaginative activity in old age. In, A. Balaza (Editor), *International Conference on Gerontology*. Budapest: Akademiai Kiado, 1965. Pp. 729-732.

Foster, J. C. Significant responses in certain memory tests. *Journal of Applied Psychology*, 1920, 4, 142-154.

Fraser, D. C. Decay of immediate memory with age. *Nature*, London, 1958, 182, 1163.

Friedman, H. Memory organization in the aged. *Journal of Genetic Psychology*, 1966, 109, 3-8.

Gilbert, G. M. The age difference in the hedonistic tendency in memory. *Journal of Experimental Psychology*, 1937, 21, 433-41.

Gilbert, J. G. Memory loss in senescence. *Journal of Abnormal and Social Psychology*, 1941, 36, 73-86.

Heron, A. Immediate memory in dialling performance with and without simple rehersal. *Quarterly Journal of Experimental Psychology*, 1962, 14, 94-103.

Heron, A., & Craik, F. Age differences in cumulative learning of meaningful and meaningless material. *Scandinavian Journal of Psychology*, 1964, 5, 209-217.

Hill, L. B. A quarter century of delayed recall. *Pedagogical Seminary and Journal of Genetic Psychology*, 1934, 44, 231-238.

Hill, L. B. A second quarter century of delayed recall or relearning at 80. *Journal of Educational Psychology*, 1957, 48, 65-68.

Hulicka, I. M. Age differences in memory as a function of learning. Presented at 13th annual VA Medical Research Conference, Cincinnati, 1962.

Hulicka, I. M. Age differences in memory functioning: Psychological problems of the institutionalized aged. Presented at Western New York Geriatric Society, Buffalo, Nov. 1964.

Hulicka, I. M. Short term learning retention efficiency as a function of age, health and type of task. Presented at the meeting of the Eastern Psychological Association, Philadelphia, Pa., Apr. 1964.

Hulicka, I. M., & Weiss, R. L. Age differences in retention as a function of learning. *Journal of Consulting Psychology*, 1965, 29, 125-129.

Inglis, J. An experimental study of learning and "memory function" in elderly psychiatric patients. *Journal of Mental Science*, 1957, 103, 796-803.

Inglis, J. Relationships between learning and other cognitive functions: an investigation with special reference to 'memory disorder' in elderly psychiatric patients. Unpublished doctoral thesis, University of London, 1958.

Inglis, J. Psychological investigations of cognitive deficit in elderly psychiatric patients. *Psychological Bulletin*, 1958, 55, 197-214.

Inglis, J. Learning, retention, and conceptual usage in elderly patients with memory disorder. *Journal of Abnormal and Social Psychology*, 1959, 59, 210-215.

Inglis, J. Dichotic stimulation and memory disorder. *Nature*, 1960, 186, 181-182.

Inglis, J. Effect of age on responses to dichotic stimulation. *Nature*, 1962, 194, 1101.

Inglis, J. Influence of motivation, perception and attention on age-related changed in short-term memory. *Nature*, 1964, 204, 103-104.

Inglis, J. Immediate memory, age, and brain function. In A. T. Welford, & J. E. Birren (Eds.), *Behavior, aging, and the nervous system*. Springfield, Illinois: C. C. Thomas, 1965. Pp. 88-113.

Inglis, J., & Ankus, M. N. Learning processes and memory function. Paper presented at the meeting of the American Psychological Association, Los Angeles, 1964.

Inglis, J., & Ankus, M. N. Effects of age on short-term storage and serial rote learning. *British Journal of Psychology*, 1965, 183-195.

Inglis, J., Ankus, N., & Sykes, H. The long-term development of short-term memory *Abstracts, 7th International Congress of Gerontology*. Wien: Wien Medizinischen Akademie, 1966. P. 332.

Inglis, J., & Caird, W. K. Age differences in successive responses to simultaneous stimulation. *Canadian Journal of Psychology*, 1963, 17, 98-105.

Inglis, J., & Caird, W. K. Modified digit spans and memory disorder. *Diseases of the Nervous System*, 1963, 24, 46-50.

Inglis, J., & Mackay, H. A. The effect of age on short term memory. In P. F. Hansen (Ed.), *Age with a future*. *Proceedings of the 6th International Congress of Gerontology*. Copenhagen, Denmark: Munksgaard, 1964. Pp. 430-437.

Inglis, J., & Sanderson, R. E. Successive responses to simultaneous stimulation in elderly patients with memory disorder. *Journal of Abnormal and Social Psychology*, 1961, 62, 709-712.

Inglis, J., & Sanderson, R. E. Immediate memory and memory disorder. In C. Tibbitts & W. Donahue (Eds.), *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 782-788.

Inglis, J., Shapiro, M. B., & Post, F. "Memory function" in psychiatric patients over sixty. The role of memory in tests discriminating between "functional" and "organic" groups. *Journal of Mental Science*, 1956, 102, 589-598.

Inglis, J., & Tansey, C. L. Perception and short term storage in dichotic listening performance. *Psychonomic Science*, 1967, 7, 273-274.

Jones, H. E. (assisted by H. Conrad and A. Horn), Psychological studies of motion pictures. II. Observation and recall as a function of age. *University of California Publications in Psychology*, 1928, 3, 225-243.

Kay, H. Learning of a serial task by different age groups. *Quarterly Journal of Experimental Psychology*, 1951, 3, 166-183.

Kay, H. Adult learning and remembering. In B. A. Farrell (Ed.), *Experimental psychology*. N. Y.: Philosophical Library, 1955. Pp. 113-23.

Kay, H. The retrieval of information by older subjects. In *Proceedings of the 7th International Congress of Gerontology*. Vol. 8. Wien: Wien Medizinischen Akademie, 1966. Pp. 7-20.

Kendall, B. S. Memory for designs performance in the seventh and eighth decades of life. *Perceptual and Motor Skills*, 1962, 14, 399-405.

Kirchner, W. K. Age differences in short-term retention of rapidly changing information. *Journal of Experimental Psychology*, 1958, 55, 352-358.

Klonoff, K., & Kennedy, M. Memory and perceptual functioning in octogenarians and nonagenarians in the community. *Journal of Gerontology*, 1965, 20, 328-333.

Kral, V. A. Neuro-psychiatric observations in an old peoples home. Studies of memory dysfunction in senescence. Journal of Gerontology, 1958, 13, 169-176.

Kral, V. A. Senescent memory decline and senile amnesic syndrome. American Journal of Psychiatry, 1958, 115, 361-362.

Kral, V. A. Types of memory dysfunction in senescence. Psychiatric Research Reports, 1959, 11, 30-40.

Kral, V. A. Senescent forgetfulness: Benign and malignant. Canadian Medical Association Journal, 1962, 86, 257-260.

Kral, V. A., Cahn, C., & Mueller, H. Senescent memory impairment and its relation to the general health of the aging individual. Journal of the American Geriatrics Society, 1964, 12, 101-113.

Kral, V. A., & Wigdor, B. T. Androgen effect on senescent memory function. Geriatrics, 1959, 14, 450-456.

Kral, V. A., & Wigdor, B. T. Further studies on the androgen effect on senescent memory function. Canadian Psychiatry Association Journal, 1961, 6, 345-352.

Lane, G. Age differences in recall as a function of similarity of materials interpolated between original learning and recall. Faculty Research Committee, University of Delaware, Newark, Del., Sept. 1960.

Lawson, J. S. Changes in immediate memory with age. British Journal of Psychology, 1965, 56, 69-75.

Mackay, H. A., & Inglis, J. The effect of age on a short-term auditory storage process. Gerontologia, 1963, 8, 193-200.

Mackay, H. A., & Inglis, J. The reinforcement of simple responses in elderly psychiatric patients with and without memory disorder. Paper read at the meeting of the Eastern Psychological Association, Atlantic City, 1965.

McGhie, A. J., Chapman, J., & Lawson, J. S. Changes in immediate memory with age. British Journal of Psychology, 1965, 56, 69-75.

McNemar, Q., & Stone, C. P. Studies of animal retention. I. Notes on the relearning of a multiple-T maze by albino rats. Journal of Genetic Psychology, 1931, 39, 135-156.

McNulty, J. A., & Caird, W. Memory loss with age: Retrieval or storage? Psychological Reports, 1966, 19, 229-230.

McNulty, J. A., & Caird, W. Memory loss with age: An unsolved problem. Psychological Reports, 1967, 20, 283-288.

Morra, M. A. The domiciled male veteran: Some basic data on short term memory. Newsletter for Research in Psychology. Veterans Administration Center, Hampton, Virginia, 1961, 3, 66-70.

Newcombe, F., & Steinberg, B. Some aspects of learning and memory function in older psychiatric patients. Journal of Gerontology, 1964, 19, 490-493.

Obrist, W. D., & Busse, E. W. The Electroencephalogram in old age. In W. P. Wilson (Ed.), Applications of electroencephalography in psychiatry. Durham, N. C.: Duke Univ. Press, 1965. Pp. 185-205.

Rapaport, A. Investigation on the effect of age on the ability to learn and on deferred memory in the rat. *Revue Francais de Gerontologie*, 1961, 7, 309-315.

Reimanis, G. Relationship of childhood experience memories to anomie later in life. *Journal of Genetic Psychology*, 1965, 106, 245-252.

Reimanis, G. Childhood experience memories and anomie in adults and college students. *Journal of Individual Psychology*, 1966, 22, 56-64.

Rich, T. A. Perceptual after-effects, learning and memory in an aged group. *Dissertation Abstracts*, 1958, 18, 311-312.

Richardson, B. W. Memory as a test of age. *Asclepiad*, 1891, 8, 230-232.

Riddell, S. A. The performance of elderly psychiatric patients on equivalent forms of tests of memory and learning. *British Journal of Social and Clinical Psychology*, 1962, 1, 70-71.

Riddell, S. A. The relationship between tasks of organic involvement, memory impairment, and diagnosis in elderly psychiatric patients. *British Journal of Social and Clinical Psychology*, 1962, 1, 228-231.

Schonfield, A. E. D. Memory changes with age. *Nature*, 1965, 208, 918-919.

Schonfield, A. E. D. Memory and age. *Medical News*, Mar. 25, 1966, 10.

Schonfield, A. E. D. Memory loss with age: Acquisition and retrieval. *Psychological Reports*, 1967, 20, 223-226.

Schonfield, A. E. D., & Donaldson, A. W. Immediate memory as a function of intra-series variation. *Canadian Journal of Psychology*, 1966, 20, 218-227.

Schonfield, A. E. D., & Robertson, B. A. Memory storage and aging. *Canadian Journal of Psychology*, 1966, 20, 228-236.

Shakow, D., Dolkart, M. B., & Goldman, R. The memory function in psychoses of the aged. *Diseases of the Nervous System*, 1941, 2, 43-48.

Shapiro, M. B., Post, F., Lofving, B., & Inglis, J. "Memory function" in psychiatric patients over sixty, some methodological and diagnostic implications. *Journal of Mental Science*, 1956, 102, 233-246.

Smith, M. E. Delayed recall of previously memorized material after twenty years. *Journal of Genetic Psychology*, 1935, 47, 447-481.

Smith, M. E. Delayed recall of previously memorized material after forty years. *Journal of Genetic Psychology*, 1951, 79, 337-338.

Smith, M. E. Childhood memories compared with those of adult life. *Journal of Genetic Psychology*, 1952, 80, 151-182.

Smith, M. E. Delayed recall of previously memorized material after fifty years. *Journal of Genetic Psychology*, 1963, 102, 3-4.

Smith, N. F. Effects of interpolated learning on retention of an escape response in rats as a function of age. *Dissertation Abstracts*, 1964, 25, 1368-1369.

Speakman, D. The effects of age on the incidental relearning of stamp values: The use of deduction in a subsidiary test. *Journal of Gerontology*, 1954, 9, 162-167.

Suci, G. H., Davidoff, M. D., & Braun, J. C. Interference in short term retention as a function of age. In C. Tibbitts & W. Donahue (Eds.), *Social and Psychological Aspects of Aging*. New York: Columbia University Press, 1962. Pp. 770-773.

Szafran, J. Age differences in sequential decisions and cardiovascular status among pilots. *Aerospace Medicine*, 1965, 36, 303-310.

Szafran, J. Age differences in the rate of gain of information signal detection strategy, and cardiovascular status among pilots. *Gerontologia*, 1966, 12, 6-17.

Talland, G. A. Age and the immediate memory span. *The Gerontologist*, 1967, 7, 4-9.

Talland, G. A., Mendelson, J. H., Koz, G., & Aaron, R. Experimental studies of the effects of tricyanoaminopropene on the memory and learning capacities of geriatric patients. *Journal of Psychiatric Research*, *1965*, 3, 171-179.

Taub, H. A. Visual short-term memory as a function of age, rate of presentation, and schedule of presentation. *Journal of Gerontology*, 1966, 21, 388-391.

Taub, H. A., & Greiff, S. Effects of age on organization and recall of two sets of stimuli. *Psychonomic Science*, 1967, 7, 53-54.

Thompson, R. The effect of ECS on retention in young and adult rats. *Journal of Comparative and Physiological Psychology*, 1957, 50, 644-646.

Thompson, R., Hanavey, F., Pennington, D. F., Smith, J., Jr., Gannon, D., & Stockwell, F. An analysis of the differential effects of ECS on memory in young and adult rats. *Canadian Journal of Psychology*, 1958, 12, 83-96.

Thumin, F. J. Reminiscence as a function of chronological age. Unpublished master's thesis, Washington University, 1956.

Thumin, F. J. Reminiscence as a function of chronological and mental age. *Journal of Gerontology*, 1962, 17, 392-396.

Titchener, E. B. Relearning after forty-six years. *American Journal of Psychology*, 1923, 34, 468-469.

Uhlmann, F. W., & Saltz, E. Retention of anxiety material as a function of cognitive differentiation. *Journal of Personality and Social Psychology*, 1965, 1, 55-62.

Van Zooneveld, R. J. An orientation study of the memory of old people. *Geriatrics*, 1958, 13, 532-534.

Verzar-McDougall, J. Learning and memory tests for young and old rats. In *Old age in the modern world*. London: Livingstone Ltd., 1955. Pp. 247-259.

Verzar-McDougall, J. Studies in learning and memory in ageing rats. *Gerontologia*, 1957, 1, 65-85.

Walton, D. The diagnostic and predictive accuracy of the Wechsler Memory Scale in psychiatric patients over 65. *Journal of Mental Science*, 1958, 104, 1111-1118.

Warshaw, L. Mental set in social learning and forgetting. *Psychology Newsletter*, 1952, 35, 1-21.

Wechsler, D. A standardized memory scale for clinical use. *Journal of Psychology*, 1945, 19, 87-95.

Weiss, A. D. Diotic and dichotic digit spans in relation to age. *American Psychologist*, 1958, 13, 354. (Abstract)

Weiss, R. Age differences in memory as a function of learning. Presented at the meeting of the Eastern Psychological Association, New York, April, 1963.

Welford, A. T. *Ageing and human skill*. London: Oxford University Press, 1958.

Wigdor, B. T., & Kral, V. A. Senescent memory function as an indicator of the general preservation of the aging human organism. *Proceedings of the Third World Congress of Psychiatry*. Toronto: McGill University Press, 1962. Pp. 682-686.

Willoughby, R. R. Incidental learning. *Journal of Educational Psychology*, 1929, 20, 671-682.

Wimer, R. E. Learning and retention in old age. Unpublished doctoral dissertation, McGill University, 1958.

Wimer, R. E. Supplementary report on age differences in retention over a twenty-four hour period. *Journal of Gerontology*, 1960, 15, 417-418.

Wimer, R. E., & Wigdor, B. T. Age differences in retention of learning. *Journal of Gerontology*, 1958, 13, 291-295.

Worcester, D. A. Learning ability and retention after long periods. *Journal of Educational Psychology*, 1957, 48, 505-509.

LEARNING AND COGNITIVE BEHAVIOR

VERBAL BEHAVIOR

Anderson, A. W. The relationship of age to adult reading scores. *Journal of Educational Psychology*, 1960, 51, 335-336.

Birren, J. E., & Botwinick, J. Age changes in verbal fluency. *Journal of Gerontology*, 1951, 6, 62. (Abstract)

Birren, J. E., & Riegel, K. F. Age differences in word associations and word completions in discrete and continuous, timed and untimed tasks. Paper presented at the meeting of the American Psychological Association, Aug. 31, 1962.

Birren, J. E., Riegel, K. F., & Robbin, J. S. Age differences in continuous word associations measured by speech recordings. *Journal of Gerontology*, 1962, 17, 95-96.

Christian, A. M. The effect of age in later maturity on verbal and motor habits. Unpublished master's thesis, Univ. of Minnesota, 1932.

Coppinger, N. W., & Canestrari, R. E., Jr. The influence of age on association values for the Kent-Rosanoff Word List. *The Gerontologist*, 1964, 4, (3, Part II), 14. (Abstract)

Dennis, W. The long-term constancy of behavior: Sentence length. *Journal of Gerontology*, 1960, 15, 195-196.

Feldman, F., & Cameron, D. E. Speech in senility. *American Journal of Psychiatry*, 1944, 101, 57-67.

Jenkins, J. J. Commonality of association as an indicator of more general patterns of verbal behavior. In T. A. Sebeok (Ed.), *Style in Language*. New York: Wiley, 1960. Pp. 307-329.

Mysak, E. D., & Hanley, T. D. Aging process in speech: Pitch and duration characteristics. *Journal of Gerontology*, 1958, 13, 309-313.

Palermo, D. S., Flamer, G. B., & Jenkins, J. J. Association value of responses in paired-associate learning of children and adults. *Journal of Verbal Learning and Verbal Behavior*, 1964, 3, 171-175.

Price, B. The grasping of spoken directions as an age function in adults. *Psychological Bulletin*, 1933, 30, 588-589. (Abstract)

Riegel, K. F. A study of verbal achievements of older persons. *Journal of Gerontology*, 1959, 14, 453-456.

Riegel, K. F. Age and cultural differences as determinants of word associations: Suggestions for their analysis. *Psychological Reports*, 1965, 16, 75-78.

Riegel, K. F. Development of language, suggestions for a verbal fallout model. *Human Development*, 1966, 9, 97-120.

Riegel, K. F., & Birren, J. E. Age differences in choice reaction time to verbal stimuli. Paper presented at the 15th Annual Meeting of the Gerontological Society, Miami Beach, 1962.

Riegel, K. F., & Birren, J. E. Age differences in associative behavior. *Journal of Gerontology*, 1965, 20, 125-130.

Riegel, K. F., & Birren, J. E. Age differences in verbal associations. *Journal of Genetic Psychology*, 1966, 108, 153-170.

Riegel, K. F., & Riegel, R. M. Cross-sectional comparisons of word associations collected from age levels, 17-19, 55-64 and 65 and over. Presented at the meeting of the American Psychological Association, August 31, 1962.

Riegel, K. F., & Riegel, R. M. Changes in associative behavior during later years of life: A cross-sectional analysis. *Vita Humana*, 1964, 7, 1-32.

Rocklyn, E. H., Hessert, R. B., & Braun, H. W. Calibrated materials for verbal learning with middle and old-aged subjects. *American Journal of Psychology*, 1957, 70, 628-630.

Rokosz, S. F., & Correll, R. E. Free association responses as a function of age and stimulus frequency. *Psychological Reports*, 1966, 18, 195-199.

Smith, M. E. Linguistic constancy in individuals when long periods of time are covered and different types of material are sampled. *Journal of Genetic Psychology*, 1955, 53, 109-143.

Smith, M. E. Relation between word variety and mean letter length of words with chronological and mental ages. *Journal of Genetic Psychology*, 1957, 56, 27-43.

Smith, M. E. The application of some measures of language behavior and tension to the letters written by a woman at each decade of her life from 49 to 89 years of age. *Journal of Genetic Psychology*, 1957, 57, 289-295.

Talland, G. A. Three estimates of the word span and their stability over the adult years. *Quarterly Journal of Experimental Psychology*, 1965, 17, 301-307.

Tresselt, M. E. The responses and frequencies of responses for 108 subjects (ages 34-41) to the Kent-Rosanoff word list. *Psychology Newsletter*, 1949, 10, 176-212.

Tresselt, M. E. The responses & frequencies of responses for 122 subjects (ages 42-54) to the Kent-Rosanoff word list. *Journal of Psychological Studies*, 1960, 11, 118-146.

Tresselt, M. E., & Leeds, D. S. The responses and frequencies of responses for males and females (ages 18-21) to the Kent-Rosanoff list. *Psychology Newsletter*, 1953, 5, 1-36.

Tresselt, M. E. The frequencies of responses by males and females (N=124) for each of the 100 Kent-Rosanoff stimulus words (ages 22-25). *Psychology Newsletter*, 1953, 5, 39-74.

Tresselt, M. E. The responses and frequencies of responses for males and females (ages 26-29) to the Kent-Rosanoff word list. *Psychology Newsletter*, 1954, 5, 144-177.

Tresselt, M. E. The responses and frequencies of responses for males and females (ages 30-33) to the Kent-Rosanoff word list. *Psychology Newsletter*, 1955, 6, 95-127.

Tresselt, M. E., & Mayzner, M. S. The Kent-Rosanoff word association: Word association norms as a function of age. Psychonomic Science, 1964, 1, 65-66.

Trueblood, C. K. The deterioration of language in senility. Psychological Bulletin, 1935, 32, 7-35.

Warren, R. M. Illusory changes in repeated words: Differences between young adults and the aged. The American Journal of Psychology, 1961, 74, 506-516.

Warren, R. M., & Warren, R. P. A comparison of speech perception in childhood, maturity, and old age by means of the verbal transformation effect. Journal of Verbal Learning and Verbal Behavior, 1966, 5, 142-146.

LEARNING AND COGNITIVE BEHAVIOR

SET

Botwinick, J. A research note on the problem of perceptual modification in relation to age. *Journal of Gerontology*, 1962, 17, 190-192.

Botwinick, J., Brinley, J. F., & Birren, J. E. Set in relation to age. *Journal of Gerontology*, 1957, 12, 300-305.

Botwinick, J., Brinley, J. F., & Robbin, J. S. Maintaining set in relation to motivation and age. *The American Journal of Psychology*, 1959, 72, 585-588.

Botwinick, J., Brinley, J. F., & Robbin, J. S. Modifying perceptions in relation to age. *American Psychologist*, 1958, 13, 354. (Abstract)

Botwinick, J., Brinley, J. F., & Robbin, J. S. Reorganization of perceptions with age. *Journal of Gerontology*, 1959, 14, 85-88.

Brinley, J. F. Cognitive sets, speed and accuracy of performance in the elderly. In A. T. Welford & J. E. Birren (Eds.), *Behavior, aging and the nervous system*. Springfield, Illinois: C. C. Thomas, 1965. Pp. 114-149.

Brinley, J. F. Rigidity and the control of cognitive sets in relation to speed and accuracy of performance in the elderly. *Dissertation Abstracts*, 1965, 26, 1158-1159.

Cohen, L. D., & Axelrod, S. The performance of young and elderly persons on embedded-figure tasks in two sensory modalities. In C. Tibbitts & W. Donahue (Eds.), *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 740-750.

Gladis, M. Age differences in repeated learning tasks in schizophrenic subjects. *Journal of Abnormal and Social Psychology*, 1964, 68, 437-441.

Heglin, H. J. Problem solving set in different age groups. *Dissertation Abstracts*. 1955, 15, 1648.

Heglin, H. J. Problem solving set in different age groups. *Journal of Gerontology*, 1956, 11, 310-317.

Kay, H. The effects of position in a display upon problem solving. *Quarterly Journal of Experimental Psychology*, 1954, 6, 155-169.

Korchin, S. J., & Basowitz, H. The judgment of ambiguous stimuli as an index of cognitive functioning in aging. *Journal of Personality*, 1956, 25, 81-95.

Levinson, B., & Reese, H. W. Patterns of discrimination learning set in preschool children, fifth graders, college freshmen, and the aged. Final Report, 1963, State University of New York at Buffalo, Cooperative Research Project #1059, U. S. Department of Health, Education and Welfare.

Rabbitt, P. M. A. Set and age in a choice-response task. *Journal of Gerontology*, 1964, 19, 301-306.

Rabbitt, P. M. A. Set and age: The use made of reliable and false partial advance information in a choice-reaction task. Unpublished paper, Medical Research Council, Applied Psychological Research Unit, Cambridge, England.

Riegel, K. F. Vorschlage fur einer statistischen Interpretation von Alternsveranderungen sprachlicher leistungen. In F. P. Hardesty & K. Eyferth (Eds.), *Fonderungen an die Psychologie: Festschrift fur Professor C. Bondy*. Bern: Huber, 1965. Pp. 87-105.

Riegel, K. F. Speed of verbal performance as a function of age and set: A review of issues and data. In A. T. Welford & J. E. Birren (Eds.), *Behavior, aging, and the nervous system*. Springfield, Illinois: C. C. Thomas, 1965. Pp. 150-190.

Riegel, K. F., Riegel, R. M., & Wendt, D. Perception and set: A review of the literature and a study of the effect of instructions and verbal habits on word recognition thresholds of young and old subjects. *Acta Psychologica*, 1962, 20, 224-251.

Silverman, I., & Reimanis, G. A test of two interpretations of age deficit in the ability to reverse an ambiguous figure. *Journal of Gerontology*, 1966, 21, 89-92.

Talland, G. A. Age and the effect of anticipatory set on accuracy of perception. *Journal of Gerontology*, 1959, 14, 202-207.

Talland, G. A. Facilitation of accurate perception by anticipatory sets: The progressive effects of aging. *Gerontologia*, 1959, 3, 339-350.

Talland, G. A. Visual signal detection as a function of age, input rate, and signal frequency. *Journal of Psychology*, 1966, 63, 105-115.

Verville, E., & Cameron, N. Age and sex differences in the perception of incomplete pictures by adults. *Journal of Genetic Psychology*, 1946, 68, 149-157.

Warshaw, L. Mental set in social learning and forgetting. *Psychology Newsletter*, 1952, 35, 1-21.

Wimer, R. E. Age differences in incidental and intentional learning. *Journal of Gerontology*, 1960, 15, 79-82.

STUDIES ON INTELLIGENCE AND TEST BEHAVIOR

STUDIES OF AGE CHANGES IN TEST BEHAVIOR

Ammons, R. B., Larson, W. L., & Shearn, C. R. The full-range picture vocabulary test: V. Results for an adult population. *Journal of Consulting Psychology*, 1950, 14, 150-155.

Armitage, S. G., & Pearl, D. Wechsler-Bellevue changes over time. *Journal of Clinical Psychology*, 1958, 14, 22-24.

Azima, F. C., & Kral, V. A. Effects of blindfolding on persons during psychologic testing. A psychometric study of various age groups. *Geriatrics*, 1960, 15, 780-792.

Banham, K. M. Senescence and the emotions: A genetic study. *Journal of Genetic Psychology*, 1951, 78, 175-183.

Bayley, N. Learning in adulthood: The role of intelligence. In H. J. Klausmeier & C. Harris (Eds.), *Analyses of concept learning*. New York: Academic Press, 1966. Pp. 117-138.

Bayley, N. On the growth of intelligence. *American Psychologist*, 1955, 10, 805-818.

Bayley, N. Changing concepts of intelligence: A new look at the curve of intelligence. In *Proceedings 1956 Invitational Conference on Testing Problems*. Princeton: Educational Testing Service, 1956. Pp. 11-25.

Bayley, N., & Oden, M. H. The maintenance of intellectual ability in gifted adults. *Journal of Gerontology*, 1955, 10, 91-107.

Beard, B. B. Survival traits: Adaptive intelligence of centenarians. In *Proceedings of the 7th International Congress of Gerontology*, Vol. 6. Wien: Wien Medizinischen Akademie, 1966. Pp. 233-236.

Bechtoldt, H., & Moren, R. Correlational analyses of test-retest data with a 30-year intertrial interval. *Proceedings of the Iowa Academy of Science*, 1957, 64, 514-519.

Beeson, M. F. Intelligence at senescence. *Journal of Applied Psychology*, 1920, 4, 219-234.

Behrens, H. D., & Nester, R. F. Intellectual changes during maturity and old age. *Review of Educational Research*, 1950, 20, 361-366.

Bennett, G. K. Relationship of age and mental test scores among older persons. In C. Tibbitts & W. Donahue (Eds.), *New frontiers of aging*. Ann Arbor: University of Michigan Press 1957. Pp. 152-156.

Bentz, V. J. A test-retest experiment on the relationship between age and mental ability. *American Psychologist*, 1953, 8, 319-320. (Abstract)

Berkowitz, B. The Wechsler-Bellevue performance of white males past age 50. *Journal of Gerontology*, 1953, 8, 76-80.

Berkowitz, B. Changes in intellect with age: IV. Changes in achievement and survival in older people. *Journal of Genetic Psychology*, 1965, 107, 3-14.

Berkowitz, B., & Green, R. F. Changes in intellect with age: I. Longitudinal study of Wechsler-Bellevue scores. *Journal of Genetic Psychology*, 1963, 103, 3-21.

Berkowitz, B., & Green, R. F. Changes in intellect with age: V. Differential changes as functions of time interval and original score. *Journal of Genetic Psychology*, 1965, 107, 179-192.

Berstein, I. S. Response variability and rigidity in the adult chimpanzee. *Journal of Gerontology*, 1961, 16, 381-386.

Birren, J. E. Age changes in mental abilities. *Journal of Business*, 1954 27, 156-163.

Birren, J. E., Fox, C., & Botwinick, J. An analysis of age changes in the rate of performance of simple intellectual tasks. *American Psychologist*, 1950, 5, 365. (Abstract)

Birren, J. E., Riegel, K. F., & Morrison, D. F. Intellectual capacities, aging, and man's environment. In R. H. Williams, C. Tibbitts, & W. Donahue (Eds.), *Processes of aging*. Vol. I. New York: Atherton Press, 1963. Pp. 9-44.

Boki, I. V. The lowering of intellectual capacities in old age. In D. F. Chebotanev (ed.), *Problems of gerontology and geriatrics*. Vol. III. *Mechanisms of aging*. Leningrad: State Publishing House of Medical Literature, 1963. Pp. 255-261.

Botwinick, J., & Birren, J. E. Mental abilities and psychomotor responses in healthy aged men. In J. E. Birren, *et. al.* (Eds.), *Human aging*. Washington, D.C.: Public Health Service Publication No. 986, 1963. Pp. 97-108.

Bradway, K. P., & Thompson, C. W. Intelligence at adulthood: A twenty-five year follow-up. *Journal of Educational Psychology*, 1962, 53, 1-14.

Bradway, K. P., Thompson, C. W., & Cravens, R. B. Preschool IQs after twenty-five years. *Journal of Educational Psychology*, 1958, 49, 278-281.

Bradway, K. P., & Robinson, N. M. Significant IQ changes in twenty-five years. *Journal of Educational Psychology*, 1961, 52, 74-79.

Brown, M. H., & Bryan, G. E. Age and sex variability on the Wechsler-Bellevue Scale. Paper read at Western Psychological Association, Long Beach, May, 1954.

Caldwell, H. H. Adult tests of the Stanford Revision applied to university faculty members. *Journal of Experimental Psychology*, 1922, 5, 247-262.

Campbell, D. P. A cross-sectional and longitudinal study of scholastic abilities over twenty-five years. *Journal of Counseling Psychology*, 1965, 12, 55-61.

Cattell, R. B. The measurement of adult intelligence. *Psychological Bulletin*, 1943, 40, 153-193.

Cesa-Bianchi, M. L'applicazione dei reattivi mentali nello studio dell'invecchiamento. (The application of psychological tests to the study of old age.) *Archivio di Psicologia, Neurologia e Psichiatria*, 1951, 12, 390-393.

Cesa-Bianchi, M. Il reattivo Wechsler-Bellevue applicato alla eta involutiva. *Contributi del Lab. di Psicol. dell'Univ. Catt.*, 1953, 19, 1-61.

Cesa-Bianchi, M., & Carati, C. An experimental contribution to the study of the changes of mental activity in old women. *Journal of Gerontology*, 1963, 11, 483-499.

Cesa-Bianchi, M., & Carati, C. Study of intellectual changes in old age. In P. F. Hansen (Ed.), *Age with a future*. Copenhagen: Munksgaard, 1964. Pp. 412-414.

Chesrow, E. J., Wosika, P. H., & Reinitz, A. H. A psychometric evaluation of aged white males. *Geriatrics*, 1949, 4, 169-177.

Chown, S. M. The effects of time limits on the assessment of intelligence: A comparison of age groups. *Abstracts, 7th International Congress of Gerontology*. Wien: Wien Medizinischen Akademie, 1966. P. 35.

Chown, S. M. Age and the rigidities. *Journal of Gerontology*, 1961, 16, 353-362.

Clement, F. Controle d'un effet de transfert d'apprentissage sur des epreuves semblables. *Revue de Psychologie Appliquee*, 1959, 9, 103-108.

Clement, F., & Bourliere, F. Do intellectual aptitudes decline with age? *Revue Francais de Gerontologie*, 1958, 4, 17-32.

Cohen, C. S. Research on mental abilities and aging. *Adult Education*, 1962, 12, 165-172.

Conrad, H. S. General-information, intelligence, and the decline of intelligence. *Journal of Applied Psychology*, 1930, 14, 592-599.

Conrad, H. S. The measurement of adult intelligence, and the requisites of a general intelligence test. *Journal of Social Psychology*, 1931, 2, 72-86.

Conrad, H. S., Jones, H. E., & Hsiao, H. H. Sex differences in mental growth and decline. *Journal of Educational Psychology*, 1933, 161-169.

Copple, G. E. Senescent decline on the Wechsler-Bellevue Intelligence Scale. Unpublished doctoral dissertation, University of Pittsburgh, 1948.

Corsini, R. J. Retesting prison inmates for intelligence. *Journal of Correctional Education*, 1951, 3, 20-23.

Corsini, R. J., & Fassett, K. K. Intelligence and aging. *Journal of Genetic Psychology*, 1953, 83, 249-264.

Dibner, A. S., & Cummins, J. F. Intellectual functioning in a group of normal octogenarians. *Journal of Consulting Psychology*, 1961, 25, 137-141.

Dibner, A. S., & Cummins, J. F. Intellectual functioning of fifty Spanish-American War veterans. *Journal of Gerontology*, 1959, 14, 504. (Abstract)

Doll, E. A. The average mental age of adults. *Journal of Applied Psychology*, 1919, 3, 317-328.

Doppelt, J. E., & Wallace, W. L. The performance of older people on the Wechsler Adult Intelligence Scale. *American Psychologist*, 1955, 10, 338-339. (Abstract)

Doppelt, J. E., & Wallace, W. L. Standardization of the Wechsler Adult Intelligence Scale for older persons. *Journal of Abnormal and Social Psychology*, 1955, 51, 312-330.

Droege, R. C., Crambert, A. C., & Henkin, J. B. Relationship between G.A.T.B. aptitude scores and age for adults. *Personnel & Guidance Journal*, 1963, 41, 502-508.

Dublineau, J. Influence de l'age sur l'activite mentale et psychologie de la senescence. *Concours Medical, Paris*, 1948, 70 (October).

Duncan, D. R., & Barrett, A. M. A longitudinal comparison of intelligence involving the Wechsler-Bellevue I and the WAIS. *Journal of Clinical Psychology*, 1961, 17, 318-319.

Eisdorfer, C. The WAIS performance of the aged: A retest evaluation. *Journal of Gerontology*, 1963, 18, 169-172.

Eisdorfer, C., Busse, E. W., & Cohen, L. D. The WAIS performance of an aged sample: The relationship between verbal and performance IQ's. *Journal of Gerontology*, 1959, 14, 197-201.

Elonen, A. S. A comparison of two tests of intelligence administered to adults. *Psychology Monographs*, 1949, 63 (11).

Fitzhugh, K. B. Increments and decrements in intellectual abilities as a function of age. *Journal of Gerontology*, 1962, 17, 472. (Abstract)

Fitzhugh, K. B., & Fitzhugh, L. C. Age differences on tasks of immediate problem solving and stored knowledge. *The Gerontologist*, 1964, 4 (3, Suppl.), 38. (Abstract)

Fogel, E. J., Swepston, E. R., Zintek, S. S., Vernier, C. M., Fitzgerald, J. F., Marnocha, R. S., & Wechsler, C. H. Problems of the aging: Conclusion derived from two years of inter-disciplinary study of domiciliary members in a V. A. Center. *American Journal of Psychiatry*, 1956, 112, 724-730.

Foulds, G. A. Variations in the intellectual activities of adults. *American Journal of Psychology*, 1949, 62, 238-246.

Foulds, G. A., & Raven, J. C. Normal changes in the mental abilities of adults as age advances. *Journal of Mental Science*, 1948, 94, 133-142.

Fox, C. The intelligence of old indigent persons residing within and without a public home for the aged. *The American Journal of Psychology*, 1950, 63, 110-112.

Friend, C. M., & Zubek, J. P. The effects of age on critical thinking ability. *Journal of Gerontology*, 1958, 13, 407-413.

Garrett, H. E. A development theory of intelligence. *American Psychologist*, 1946, 1, 372-378.

Garrison, S. C. Retests on adults in an interval of ten years. *School and Society*, 1930, 32, 326-328.

Ghiselli, E. E. The relationship between intelligence and age among superior adults. *Journal of Genetic Psychology*, 1957, 90, 131-142.

Gilbert, J. G. Mental efficiency in senescence. *Archives of Psychology*, 1935, 27 (No. 188), 60.

Glanzer, M., & Glaser, R. Cross-sectional and longitudinal results in a study of age-related changes. *Educational and Psychological Measurement*, 1959, 19, 89-101.

Granick, S., & Friedman, A. S. The effect of education on the decline of psychometric test performance with age. *Journal of Gerontology*, 1967, 22, 191-195.

Guetzkow, H. S., & Brozek, J. M. Intellective tests for longitudinal experiments on adults. *American Journal of Psychology*, 1947, 60, 350-366.

Hagen, E. P., & Thorndike, R. L. Normative test data for adult males obtained by house-to-house testing. *Journal of Educational Psychology*, 1955, 46, 207-216.

Hebb, D. O. Clinical evidence concerning the nature of normal adult test performance. *Psychological Bulletin*, 1941, 38, 593. (Abstract)

Heston, J. C., & Cannell, C. F. A note on the relation between age and performance of adult subjects on four familiar psychometric tests. *Journal of Applied Psychology*, 1941, 25, 415-419.

Hirt, M. Use of the general aptitude test battery to determine aptitude changes with age and to predict job performance. *Journal of Applied Psychology*, 1959, 43, 36-39.

Hobson, W. The effect of aging on mental and physical capacity. *Practitioner, London*, 1955, 174, 527-535.

Horn, J. L., & Cattell, R. G. Age differences in primary mental ability factors. *Journal of Gerontology*, 1966, 21, 210-220.

Howell, R. J. Changes in Wechsler subtest scores with age. *Journal of Consulting Psychology*, 1955, 19, 47-50.

Hsiao, H. H. The performance on the Army Alpha as a function of age. Unpublished master's thesis, Columbia University, 1927.

Hulicka, I. M. Verbal WAIS scores of elderly patients. *Psychological Reports*, 1962, 10, 250.

Hulicka, I. M. Age differences in Wechsler Memory Scale scores. *Journal of Genetic Psychology*, 1966, 109, 135-145.

Jarvik, L. F., Kallman, F. J., Lorge, I., & Falek, A. Longitudinal study of intellectual changes in senescent twins. In C. Tibbitts & W. Donahue (Eds.), *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 839-859.

Jensen, M. B. Old age and intelligence: A study of domiciled veterans. V. A. Center, Hot Springs, South Dakota, 1961. (Mimeographed)

Jensen, M. B. Mentality in old age as seen by fractionation of test data. *Newsletter for Research in Psychology*. Veterans Administration Center, Hampton, Virginia, 1965, 7, No. 2, 12-13.

Jensen, M. B. Intelligence and learning in old age. I & II. Unpublished paper, Veterans Administration Center, Prescott Arizona, May 1966.

Jones, H. E. Age changes in adult mental abilities. In *Old age in the modern world*. London: E. & S. Livingstone, 1955. Pp. 267-274.

Jones, H. E. Problems of aging in perceptual and intellective functions. In J. E. Anderson (Ed.), *Psychological aspects of aging*. Washington, D.C.: American Psychological Association, 1956. Pp. 135-139.

Jones, H. E. Trends in mental abilities. Unpublished manuscript, Institute of Child Welfare, University of California, Berkeley, 1958.

Kamin, L. J. Differential changes in mental abilities in old age. *Journal of Gerontology*, 1957, 12, 66-70.

Karp, S. A. Field dependence and aging. *Research Reports* (Sinai Hosp. of Baltimore), 1966, 1, 1-9.

Kenny, P. B. Patterns of mental performance and age. Unpublished doctoral thesis, University of Sidney, 1960.

Kirihara, H. General intelligence test and its norm: 1. Standardization of intelligence tests for children, adolescents and adults. 2. Mental development of the Japanese. *Report of the Institute of Science and Labour, Japan*, 1934, 25, 1-22.

Kleemeier, R. W. *Intellectual change in the senium or death and the IQ*. Division 20 Presidential Address, American Psychological Association, 1961. (Mimeographed)

Kleemeier, R. W. Intellectual change in the senium. *Proceedings of the Social Statistics Section of the American Statistical Association*, 1962, 290-295.

Klonoff, H., & Kennedy, M. A comparative study of cognitive functioning in old age. *Journal of Gerontology*, 1966, 21, 239-243.

Kurihara, S. On the standardization of an intelligence test for adults. *Journal of the Science of Labour*, 1956, 32, 682-691.

Kushner, R. E. The relationship between content of an adult intelligence test and intelligence test score as a function of age. *Education* (Teachers College, Columbia University), 1947, No. 933.

Latimer, J. The status of intelligence in the aging. *Journal of Genetic Psychology*, 1963, 102, 175-188.

Levinson, B. M. The intelligence of middle-aged white homeless men in receipt of public assistance. *Psychological Reports*, 1955, 1, 35-36.

Levinson, B. M. A comparison of the Coloured Progressive Matrices (CPM) with the Wechsler Adult Intelligence Scale (WAIS) in a normal aged white male population. *Journal of Clinical Psychology*, 1959, 15, 288-291.

Levinson, B. M. Traditional Jewish cultural values and performance on the Wechsler Tests. *Journal of Educational Psychology*, 1959, 50, 177-181.

Levinson, B. M. A research note on subcultural differences in WAIS between aged Italians and Jews. *Journal of Gerontology*, 1960, 15, 197-198.

Levinson, B. M. Jewish subculture and WAIS performance among Jewish aged. *Journal of Genetic Psychology*, 1962, 100, 55-68.

Levinson, B. M. Positional and figural errors made by the aged on Raven colored progressive matrices. *Journal of Genetic Psychology*, 1962, 100, 183-192.

Lewinski, R. J. The Shipley-Hartford Scale as an independent measure of mental ability. *Educational and Psychological Measurement*, 1946, 6, 253-259.

Litwinski, L. L'ascension et le declin mental en fonction de l'age. (Mental development and decline as a function of age.) *Archives de Psychologie, Geneve*, 1950, 33, 49-70.

Loranger, A. W., & Misiak, H. The performance of aged females on five non-language tests of intellectual functions. *Journal of Clinical Psychology*, 1960, 16, 189-191.

Lorge, I. Intellectual changes during maturity and old age. *Review of Educational Research*, 1941, 11, 553-561.

Lorge, I. Intellectual changes during maturity and old age. *Review of Educational Research*, 1944, 14, 438-445.

Lorge, I. Intellectual changes during maturity and old age. *Review of Educational Research*, 1947, 17, 326-332.

Lorge, I. Aging and intelligence. *Research Publication. Association of Nervous and Mental Diseases*, 1955, 46-60.

Lorge, I., & Hollingworth, L. S. Adult status of highly intelligent children. *Pedagogical Seminary and Journal of Genetic Psychology*, 1936, 49, 215-226.

MacCara, E. The Wechsler memory scale with average and superior normal adults. *Bulletin of the Maritime Psychological Association*, December, 1953, 30-33.

Madonick, M. J., & Solomon, M. The Wechsler-Bellevue Scale in individuals past sixty. *Geriatrics*, 1947, 2, 34-40.

Maleci, L., & Montanari, M. Il test Wechsler-Bellevue in soggetti anziani normali. (Wechsler-Bellevue test in normal older subjects.) *Archivio di Psicologia, Neurologia e Psichiatria*, 1953, 14, 591-602.

Maleci, P., & Pessina, G. Su alcune elaborazion del punteggeo Wechsler-Bellevue in soggetti normali della provincia di Padova. *Rivista di Patologia Nervosa e Mentale*, 1954, 75, 391-411.

McGrath, E. J., & Froman, L. A. College aptitude of adult students. *School & Society*, 1937, 45, 102-104.

McNemar, Q. Intellectual status of the gifted subjects as adults. In L. M. Terman & M. Oden (Eds.), *The gifted child grows up*. Stanford, Calif.: Stanford University Press, 1947. Pp. 140-146.

Meneses Hoyos, J. Capacidad intelectual de los ancianos. (Intellectual capacity of the elderly.) *Revista de Medicina y Ciencias Afines, Mexico*, 418-420.

Miles, C. C. The influence of speed and age on intelligence scores of adults. *Journal of Genetic Psychology*, 1934, 10, 208-210.

Miles, W. R. Age and human ability. *Psychological Review*, 1933, 40, 99-133.

Morgan, A. B. Differences in logical reasoning associated with age and higher education. *Psychological Reports*, 1956, 2, 235-240.

Mursell, G. R. Decrease in intelligence with increase in age among inmates of penal institution. *Journal of Juvenile Research*, 1929, 13, 197-203.

Ni, L., & Hsiao, S. A study of mental declination with aging among the retired service men tested in Nuan-nuan Center. *Acta Psychologica Taiwanica*, 1958 (Nov.), No. 1, 9-47.

Nisbet, J. D. A twenty-year follow-up of intelligence test scores. *Advance in Science, London*, 1954, 11, 13-16.

Nisbet, J. D. Symposium: Contribution to intelligence testing and the theory of intelligence: IV. Intelligence and age: Retesting with twenty-four years' interval. *British Journal of Educational Psychology*, 1957, 27, 190-198.

Norman, R. D., & Daley, M. F. Senescent changes in intellectual ability among superior older women. *Journal of Gerontology*, 1959, 14, 457-464.

Nyiro, G. Intellectual activity in old age. In A. Balazs (Ed.), *International Conference on Gerontology*. Budapest: Akademiai Kiado, 1965. Pp. 709-715.

Nyssen, R. El problem a de la involucion de las capacidades intellectuales. *Revista de Psicologia General y Aplicada, Madrid*, 1953, 8, 259-263.

Nyssen, R. Introduction a l'etude des relations entre l'involution de l'intelligence et la demence. *Acta Neurologica et Psychiatrica Belgica*, 809-830.

Nyssen, R., & Delys, L. Contribution a l'etude du probleme du declin intellectuel en fonction de l'age. (Contribution to the study of the problem of intellectual decline with age.) *Archives de Psychologie*, 1952, 33, 295-310.

Odell, C. E. Aptitudes and work performance of the older worker. In J. E. Anderson (Ed.), *Psychological aspects of aging*. Washington, D.C.: American Psychological Association, 1956. Pp. 240-244.

O'Neil, W. M. The stability of the main pattern of abilities with changing age. *Australian Journal of Psychology*, 1962, 14, 1-8.

Osborne, R. T., & Sanders, W. B. Comparative decline of Graduate Record Examination scores and intelligence with age. *Journal of Educational Psychology*, 1954, 45, 353-358.

Osborne, R. T., & Sanders, W. B. Variations in Graduate Record Examination performance by age and sex. *Journal of Gerontology*, 1954, 9, 179-185.

Osborne, R. T., & Sanders, W. B. Differential decline in Graduate Record Examination scores with age. *Journal of Genetic Psychology*, 1955, 87, 309-316.

Osborne, R. T., & Sanders, W. B. Recency and type of undergraduate training and decline of GRE performance with age. *Journal of Educational Psychology*, 1956, 47, 276-284.

Owens, W. A., Jr. Age and mental abilities: A longitudinal study. *Genetic Psychology Monographs*, 1953, 48, 3-54.

Owens, W. A. Is age kinder to the initially more able? *Journal of Gerontology*, 1959, 14, 334-337.

Owens, W. A. Age and mental abilities: A second adult follow-up. *Journal of Educational Psychology*, 1966, 57, 311-325.

Owens, W. A., & Clampitt, R. R. The effects of a thirty year age increment upon individual and trait differences in intelligence. *Proceedings. Iowa Academy of Science*, 1952, 59, 385-388.

Pacaud, S. Le vieillissement des aptitudes; Declin des aptitudes en fonction de l'age et du niveau d'instruction. *Biotypologie*, 1953, 14, 65-94.

Pacaud, S. Le vieillissement des aptitudes. In L. Binet & F. Bouliene (Eds.), *Precis de Gerontologie*. Paris: Masson, 1955. Pp. 40-67.

Pacaud, S. Aging of aptitudes. *Revue d'Hygiene et de Medecine Sociales. Paris*, 1960, 8, 49-56.

Pacaud, S. Influence conjuge de l'age et du niveau d'instruction sur le declin des fonctions psychologiques et psychophysiologiques. *Hygiene Mentale, Paris*, 1965, 54, 49-70.

Pinneau, S. R., & Jones, H. E. Mental development in infancy and childhood and mental abilities in adult life. *Review of Educational Research*, 1955, 25, 415-437.

Porteus, S. D., & David, K. Australian mental development and geriatric decline. *Perceptual and Motor Skills*, 1966, 23, 75-87.

Raven, J. C. Testing the mental ability of adults. *Lancet*, 1942, 242, 115-117.

Raven, J. C. The comparative assessment of intellectual ability. *British Journal of Psychology*, 1948, 39, 12-19

Raven, J. C. Changes in productive and reproductive intellectual activity between 60 and 90 years of age. *Geriatrics & Gerontology*, 1960, 8, 760-767.

Reed, H. B. C., Jr., & Reitan, R. M. Changes in psychological test performance associated with the normal aging process. *Journal of Gerontology*, 1963, 18, 271-274.

Reitan, R. M. Differential reaction of various psychological tests to age. In *4th Congress of the International Association of Gerontology*. Vol. 5. Fidenza: Tito Mattioli, 1957. Pp. 158-165.

Riegel, K. F. Review: Aging studies on adult persons with tests of mental ability. Unpublished master's dissertation, University of Minnesota, 1955.

Riegel, K. Uber den differentiellen abbau einiger intellektueller Funktionen in den hoheren Altersstufen. Estratto dal Volume dell'International Symposium on Medical-Social Aspects of Senile Nervous Diseases, Venezia, 20-21 luglio, 1957.

Riegel, K. F. Eine Untersuchung uber intellelstvelle Funktionen alterer Menschen. *Tech. Report No. 2.* Hamburg: Psychological Institute, University of Hamburg, 1958.

Riegel, K. F. Ergebnisse und Probleme de psychologischen alternforschung. (Results and problems of psychological research on aging.) *Vita Humana*, 1958, 1, 52-64 and 111-117. (Article in two parts.)

Riegel, K. F., & Riegel, R. M. Analysis of differences in test and item difficulty between young and old adults. *Journal of Gerontology*, 1962, 17, 97-105.

Riegel, K. F., Riegel, R. M., & Meyers, G. The Prediction of intellectual development and death: A Longitudinal Analysis, Paper presented at 6th International Congress of Gerontology, Copenhagen, 1963.

Riegel, K. F., Riegel, R. M., & Meyer, C. Socio-psychological factors of aging: A cohort-sequential analysis. *Vita Humana*, 1967, 10, 27-56.

Riegel, R. M., & Riegel, K. F. Standardisierung des Hamburg Wechsler-Intelligenztests (HAWIE) fuer die Altersstufen ueber 50 Jahre. (The standardization of the Hamburg Wechsler Intelligence Scale (HAWIE) for age levels above 50.) *Diagnostica*, 1959, 5, 97-128.

Rhudick, P. J. WAIS performance of intellectually superior aged individuals. *Journal of Gerontology*, 1961, 16, 403-404.

Rhudick, P. J. Manifest needs and intellectual functioning in later life. Paper presented at the 15th Annual meeting of the Gerontological Society, Miami Beach, 1962.

Sanford, E. C. Mental growth and decay. *American Journal of Psychology*, 1902, 13, 426-449.

Schaie, K. W. Rigidity-flexibility and intelligence: A cross-sectional study of the adult life span from 20 to 70 years. *Psychological Monographs*, 1958, 72 (9, Whole No. 462).

Schaie, W. K., & Strother, C. R. Age changes in the primary mental abilities in a group of superior older people. *American Psychologist*, 1955, 10, 339. (Abstract)

Schaie, K. W., & Strother, C. R. The effect of time and cohort differences on the interpretation of age changes of cognitive behavior. *American Psychologist*, 1964, 19, 546. (Abstract)

Seidenfeld, M. A. Measuring mental competency in the aging. *American Journal of Orthopsychiatry*, 1944, 14, 273-276.

Smith, M. E. Mental Test ability in a family of four generations. *Journal of Genetic Psychology*, 1954, 85, 321-325.

Sorenson, H. Mental ability over a wide range of adult ages. *Journal of Applied Psychology*, 1933, 17, 729-741.

Sorenson, H. Differential effect of age and experience on mental abilities. *Psychological Bulletin*, 1936, 33, 805-806. (Abstract)

Stein, C. I. The G.A.T.B.: The effect of age on intersample variations. *Personnel and Guidance Journal*, 1962, 40, 779-783.

Strother, C. R., Schaie, K. W., & Horst, P. The relationship between advanced age and mental abilities. *Journal of Abnormal and Social Psychology*, 1957, 55, 166-170.

Sward, K. Age and mental ability in superior men. *The American Journal of Psychology*, 1945, 58, 443-479.

Terman, L. M., & Oden, M. H. *Genetic studies of genius*. Vol. 4. *The gifted child grows up: Twenty-five years' follow-up of a superior group*. Stanford, Calif.: Stanford University Press, 1947.

Terman, L. M., & Oden, M. H. *Genetic studies of genius*. Vol. 5. *The gifted group at mid-life*. Stanford, Calif.: Stanford University Press, 1959.

Thompson, D. E. Is age kinder to the initially more able? *Proceedings*. *Iowa Academy of Science*, 1954, 61, 439-441.

Thorndike, E. L., & Gallup, G. H. Verbal intelligence of the American adult. *Journal of General Psychology*, 1944, 30, 75-85.

Thumin, F. J., & Boernke, C. Miller Analogies Test performance as related to age, sex, academic field. *Psychological Reports*, 1966, 19, 751-754.

Trembly, D., & O'Connor, J. Growth and decline of natural and acquired intellectual characteristics. *Journal of Gerontology*, 1966, 21, 9-12.

Verhage, F. Intelligence and age in a Dutch sample. *Human Development*, 1965, 8, 238-245.

Verhage, F. (Intelligence and age: Considered in review.) *Gawein*, 1965, 8, 257-267.

Vernon, P. E. The variation of intelligence with occupation, age and locality. *British Journal of Psychology*, 1947-48, Statistical Section 1-2, 52-63.

Vincent, D. F. The linear relationship between age and score of adults in intelligence tests. *Occupational Psychology*, 1952, 26, 243-249.

Wagner, E. E. Differences between old and young executives on objective psychological test variables. *Journal of Gerontology*, 1960, 15, 296-299.

Wechsler, D. *The measurement of adult intelligence*. Baltimore: Williams and Wilkins, 1939.

Wechsler, D. *The measurement of adult intelligence*. (3rd ed.) Baltimore: Williams and Wilkins, 1944.

Wechsler, D. *The measurement and appraisal of adult intelligence*. (4th ed.) Baltimore: Williams and Wilkins, 1958.

Wechsler, D., & Shakow, D. Intellectual changes with age. *Public Health Report*, 1942, 168, 43-52.

Weisenburg, T., Roe, A., & McBride, K. E. *Adult intelligence*. New York: The Commonwealth Fund, 1936.

Williams, M. The effect of past experience on mental test performance in the elderly. *British Journal of Medical Psychology*, 1960, 33, 215-219.

Willoughby, R. R. Family similarities in mental-test abilities (with a note on the growth and decline of these abilities). *Genetic Psychology Monographs*, 1927, 2, 236-277.

Wolk, R. L., & Rustin, S. L. Psychologic evaluation of a gerontologic population: Comparison of results with the Raven Progressive Matrices (1947) versus the Wechsler Adult Intelligence Scale. *Journal of American Geriatric Society*, 1964, 12, 807-809.

Zubek, J. P. Intellectual and sensory processes in the aged: A terminal report. *Medical Service Journal*, 1959, 15, 731-733.

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CORRELATIONAL AND FACTOR ANALYTIC RESEARCH

Balinsky, B. An analysis of the mental factors of various age groups from nine to sixty. *Genetic Psychology Monographs*, 1941, 23, 191-234.

Berger, L., Bernstein, A., Klein, E., Cohen, J., & Lucas, G. Effects of aging and pathology on the factorial structure of intelligence. *Journal of Consulting Psychology*, 1964, 28, 199-207.

Beverfelt, E., Nygard, M., & Nordvik, H. Factor analysis of Wechsler Adult Intelligence Scale performance of elderly Norwegians. *Journal of Gerontology*, 1964, 19, 49-53.

Bilash, I., & Zubek, J. P. The effects of age on factorially "pure" mental abilities. *Journal of Gerontology*, 1960, 15, 175-182.

Birren, J. E. A factorial analysis of the Wechsler-Bellevue Scale given to an elderly population. University of Chicago, Psychometric Laboratory, October 1951.

Birren, J. E. A factorial analysis of the Wechsler-Bellevue Scale given to an elderly population. *Journal of Consulting Psychology*, 1952, 16, 399-405.

Birren, J. E., Botwinick, J., Weiss, A., & Morrison, D. F. Interrelations of mental and perceptual tests given to healthy elderly men. In J. E. Birren, R. N. Butler, S. W. Greenhouse, L. Sokoloff, & M. R. Yarrow (Eds.), *Human aging*. Washington, D.C.: Public Health Service Publication No. 986, 1963. Pp. 143-156.

Birren, J. E., & Morrison, D. F. Analysis of the WAIS subtests in relation to age and education. *Journal of Gerontology*, 1961, 16, 363-369.

Britton, P. G., & Savage, R. D. A short form of the WAIS for use with the aged. *British Journal of Psychiatry*, 1966, 112, 417-418.

Brody, A. B. A factorial study of intellectual functioning in normal and abnormal adults. *Microfilm Abstracts*, 1951, 11, 445-446.

Brody, L. Adult intelligence and pre-adult schooling. *School and Society*, 1939, 49, 746-748.

Brown, M. M. A study of performance on a deterioration test as related to quality of vocabulary and rigidity. *American Psychologist*, 1948, 3, 272. (Abstract)

Brown, R. R. Effect of age on the speed-power relationship with reference to tests of intelligence. *Journal of Educational Psychology*, 1938, 29, 413-418.

Brown, W. M. A study of the caution factor and its importance in intelligence test performance. *American Journal of Psychology*, 1924, 35, 368-386.

Chown, S. M. A factor analysis of the Wesley Rigidity Inventory: Its relationship to age and nonverbal intelligence. *Journal of Abnormal and Social Psychology*, 1960, 61, 491-494.

Clark, J. A., & King, G. F. Perceptual and motor speed in an extended age group: A factor analysis. *Perceptual and Motor Skills*, 1960, 11, 99-102.

Clark, J. W. The aging dimension: A factorial analysis of individual differences with age on psychological and physiological measures. *Journal of Gerontology*, 1960, 15, 183-187.

Cohen, J. A factor-analytically based rationale for the Wechsler Adult Intelligence Scale. *Journal of Consulting Psychology*, 1957, 21, 451-457.

Cohen, J. The factorial structure of the WAIS between early adulthood and old age. *Journal of Consulting Psychology*, 1957, 21, 283-290.

Correll, R. E., Rokosz, S., & Blanchard, B. M. Some correlates of WAIS performance in the elderly. *Journal of Gerontology*, 1966, 21, 544-549.

Doppelt, J. E., & Wallace, W. L. Standardization of the Wechsler Adult Intelligence Scale for older persons. *Journal of Abnormal and Social Psychology*, 1955, 51, 312-330.

Edwards, A. E., & Wine, D. B. Personality changes with age: Their dependency on concomitant intellectual decline. *Journal of Gerontology*, 1963, 18, 182-184.

Eisdorfer, C. Changes in cognitive functioning in relation to intellectual level in senescence. In C. Tibbitts & W. Donohue (Eds.) *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 888-896.

Eisdorfer, C. Rorschach performance and intellectual functioning in the aged. *Journal of Gerontology*, 1963, 18, 358-363.

Eysenck, H. J., & Halstead, H. The memory function. I. A factorial study of fifteen clinical tests. *American Journal of Psychiatry*, 1945, 102, 174-180.

Fisher, J., & Pierce, R. C. Dimensions of intellectual functioning of the aged. *Journal of Gerontology*, 1967, 22, 166-173.

Frost, L. L. A psychological investigation of the aged: Intelligence, personality, concept formation, psychomotor speed. Unpublished doctoral dissertation, University of Denver, 1952.

Glanzer, M., Glaser, R., & Richlin, M. Development of test battery for study of aged-related changes in intellectual and perceptual abilities. United States Air Force School of Aviation, Medical Report, 1958, No. 56-138.

Grace, A. G. The mental ability of adults as related to interests, needs, and activities. 18th Annual Report, Division of Adult Education, Cleveland Board of Education, Cleveland, Ohio. *Adult Educational Bulletin*, 1930, Ser. 4, No. 2, 213.

Green, R. F., & Berkowitz, B. Changes in intellect with age: II. Factorial analysis of Wechsler-Bellevue scores. *Journal of Genetic Psychology*, 1964, 104, 3-18.

Greenwood, D. I., & Taylor, C. Adaptive testing in an older population. *Journal of Psychology*, 1965, 60, 193-198.

Guertin, W. H. Effects of sampling on dimensionality: A discussion of "Perceptual and motor speed in an extended age group: A factor analysis." *Perceptual and Motor Skills*, 1960, 11, 189-190.

Gurvitz, M. Personality and intellectual correlates of the aging process as measured by the Rorschach technique. *American Psychologist*, 1953, 8, 360. (Abstract)

Horn, J., & Cattell, R. B. Age differences in primary mental ability factors. Journal of Gerontology, 1966, 21, 210-220.

Jalavisto, E. On the interdependence of circulatory-respiratory and neural-mental variables. Gerontologia, 1965, 10, 31-37.

Jones, A. W., & Rich, T. A. The Goodenough Draw-a-Man Test as a measure of intelligence in aged adults. Journal of Consulting Psychology, 1957, 21, 235-238.

Klove, H., & Reitan, R. M. Effect of dysphasia and spatial distortion on Wechsler-Bellevue results. Archives of Neurology and Psychiatry, 1958, 80, 708-713.

Klove, H. The differential relationships of psychological test results to electroencephalographic criteria in older and younger age groups. In C. Tibbitts & W. Donahue (Eds.), Social and psychological aspects of aging. New York: Columbia University Press, 1962. Pp. 873-879.

Levinson, B. M. The WAIS quotient of subcultural deviation. Journal of Genetic Psychology, 1963, 103, 123-131.

Lienert, G. A., & Crott, H. W. Studies on the factor structure of intelligence in children, adolescents, and adults. Vita Humana, 1964, 7, 147-163.

Lovett Doust, J. W., Schneider, R. A., Talland, G. A., & Walsh, M. A. Studies on the physiology of awareness. The correlation between intelligence and anoxemia in senile dementia. Journal of Nervous and Mental Disease, 1953, 117, 383-397.

Mackie, J. B., & Beck, E. C. Relations among age, intelligence, and critical flicker fusion. Perceptual and Motor Skills, 1965, 21, 875.

Mangan, G. L. Method-of-approach factors in the testing of middle-aged subjects. Journal of Gerontology, 1958, 13, 55-59.

Mangan, G. L., & Clark, J. W. Rigidity factors in the testing of middle-aged subjects. Journal of Gerontology, 1958, 13, 422-425.

Maxwell, A. Trends in cognitive ability in the older age ranges. Journal of Abnormal and Social Psychology, 1961, 63, 452-459.

McHugh, R. B., & Owens, W. A. Age changes in mental organization: A longitudinal study. Journal of Gerontology, 1954, 9, 296-302

Mensh, I. N. Intellectual and other personality adjustments to aging. Gerontologist, 1966, 6, 104.

Miles, C. C., & Miles, W. R. The correlation of intelligence scores and chronological age from early to late maturity. American Journal of Psychology, 1932, 44, 44-78.

Mundy-Castle, A. C. Central excitability in the aged. In H. T. Blumenthal (Ed.), Aging around the world: Medical and clinical aspects of aging. Vol. 4. New York: Columbia University Press, 1962. Pp. 575-595.

Nordvik, H. Factor analytical research on aging by the Wechsler Adult Intelligence Scale. In Proceedings of the 7th International Congress of Gerontology. Vol. 8. Wien: Wien Medizinischen Akademie, 1966. Pp. 525-528.

Norris, A. S., & Pearlman, A. Capillary morphology and performance on Trail Making Test in the elderly. A preliminary report. Journal of Gerontology, 1965, 20, 76-77.

Obrist, W. D., Busse, E. W., Eisdorfer, C., & Kleemeier, R. W. Relation of the electroencephalogram to intellectual function in senescence. *Journal of Gerontology*, 1962, 17, 197-206.

Obrist, W. D., Kleemeier, R. W., Justiss, W. A., & Henry, C. E. A longitudinal study of EEG-intelligence test correlations in old age. *Excerpta med.*, International Congress Series, No. 57, 1963, 19-20.

Osborne, R. T., & Sanders, W. B. Recency and type of undergraduate training and decline of GRE performance with age. *Journal of Educational Psychology*, 1956, 47, 276-284.

Owens, W. A. Age and mental abilities: A second adult follow-up. *Journal of Educational Psychology*, 1966, 57, 311-325.

Owens, W. A., & Charles, D. C. Life history correlates of age changes in mental abilities. Lafayette, Indiana: Purdue University, 1963. 200 pp. (Mimeographed)

Pacaud, S. The structure of psychological and psychomotor functions in relation to age, in the light of factor analysis. In C. Tibbitts & W. Donahue (Eds.), *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 836-838.

Radcliffe, J. A. WAIS factorial structure and factor scores for ages 18 to 54. *Australian Journal of Psychology*, 1966, 18, 228-238.

Riegel, R. M. Faktorenanalysen des Hamburg-Wechsler-Intelligenztests fur Erwachsene (HAWIE) fur die Altersstufen 20-34, 35-49, 50-64 und 65 Jahre und alter. *Diagnostica*, 1960, 6, 41-66.

Riegel, R. M., & Riegel, K. F. A comparison and reinterpretation of factor structures of the W-B, the WAIS, and the HAWIE on aged persons. *Journal of Consulting Psychology*, 1962, 26, 31-37.

Schaie, K. W., Rosenthal, F., & Perlman, R. M. Differential mental deterioration of factorially "pure" functions in later maturity. *Journal of Gerontology*, 1953, 8, 191-196.

Shanan, J., & Sharon, M. Personality and cognitive functioning of Israeli males during the middle years. *Human Development*, 1965, 8, 2-15.

Thaler, M. Relationships among Wechsler, Weigl Rorschach, EEG findings, and abstract-concrete behavior in a group of normal aged subjects. *Journal of Gerontology*, 1957, 11, 404-409.

Thaler, M., & Frost, L. L. Physiological and psychological correlates of aging. *American Psychologist*, 1953, 8, 446. (Abstract)

Thumin, F. J., & Boernke, C. Ability scores as related to age among female job applicants. *Journal of Gerontology*, 1966, 21, 369-371.

Weiner, M. Organization of mental abilities from ages 14 to 54. *Educational and Psychological Measurement*, 1964, 24, 573-587.

Wolfe, R. N., & Davis, J. A. Intelligence and central life interests in two groups of older men. *Psychological Reports*, 1964, 14, 847-852.

Wolk, R. L., & Rustin, S. L. Psychologic evaluation of a gerontologic population: Comparison of results with the Raven Progressive Matrices (1947) versus the Wechsler Adult Intelligence Scale. *Journal of American Geriatric Society*, 1964, 12, 807-809.

STUDIES ON INTELLIGENCE AND TEST BEHAVIOR

VOCABULARY

Ackelsberg, S. B. Vocabulary and mental deterioration in senile dementia. *Journal of Abnormal and Social Psychology*, 1944, 39, 393-406.

Blatt, S. J. Recall and recognition vocabulary: Implications for intellectual deterioration. *Archives of General Psychiatry*, 1959, 1, 473-476.

Capps, H. M. Vocabulary changes in mental deterioration. *Archives of Psychology, New York*, 1939, 34 (No. 242), 81.

Christian, A. M., & Paterson, D. G. Growth of vocabulary in later maturity. *Journal of Psychology*, 1936, 1, 167-169.

Clement, F. Reflexions a propos de la pretendue superiorite des femmes dans les epreuves de vocabulaire. *Revue de Psychologie Appliquee*, 1962, 12, 83-96.

Clement, F., & Bourliere, F. Remarques sur l'evolution avec l'age de quelques tests de vocabulaire. (Observations on change with age in some tests of vocabulary.) *Gerontologia*, 1959, 3, 5-23.

Ehrmann, J. C. A qualitative analysis of vocabulary responses in early and late maturity. *Dissertation Abstracts*, 1955, 15, 2574-2575.

Fox, C. Vocabulary ability in later maturity. *Journal of Educational Psychology*, 1947, 38, 482-492.

Fox, C., & Birren, J. E. Some factors affecting vocabulary size in later maturity: Age, education, and length of instutionalization. *Journal of Gerontology*, 1949, 4, 19-26.

Garfield, S. L., & Blek, L. Age, vocabulary level, and mental impairment. *Journal of Consulting Psychology*, 1952, 16, 395-398.

Katz, L., & Crook, G. H. Use of the Kent EGY with an aged population. *Journal of Gerontology*, 1962, 17, 186-189.

Lewinski, R. J. Vocabulary and mental measurement: A quantitative investigation and review of research. *Journal of Genetic Psychology*, 1948, 72, 247-281.

Rabin, A. I. The relationship between vocabulary levels and levels of general intelligence in psychotic and non-psychotic individuals of a wide age-range. *Journal of Educational Psychology*, 1944, 35, 411-422.

Rabin, A. I. Vocabulary and efficiency levels as functions of age in the Babcock Method. *Journal of Consulting Psychology*, 1947, 11, 207-211.

Ricks, J. H., Jr. Age and vocabulary test performance: A qualitative analysis of the responses of adults. *Dissertation Abstracts*, 1958, 19, 182.

Shakow, D., & Goldman, R. The effect of age on the Stanford-Binet vocabulary score of adults. *Journal of Educational Psychology*, 1938, 29, 241-256.

Swanson, E. O. The relation of vocabulary test-retest gains to amount of college attendance after a 24-year period. *American Psychologist*, 1952, 7, 368. (Abstract)

Yates, A. J. The use of vocabulary in the measurement of intellectual deterioration: A review. *Journal of Mental Science*, 1956, 102, 409-440.

STUDIES ON INTELLIGENCE AND TEST BEHAVIOR

PSYCHOMOTOR TESTS

Barry, A. J., Steinmetz, J. R., Page, H. F., & Rodahl, K. The effects of physical conditioning on older individuals. II. Motor performance and cognitive function. Journal of Gerontology, 1966, 21, 192-199.

Botwinick, J., & Birren, J. E. Mental abilities and psychomotor responses in healthy aged men. In J. E. Birren, R. N. Butler, S. W. Greenhouse, L. Sokoloff, & M. R. Yarrow (Eds.), Human aging. Washington, D.C.: Public Health Service Publication No. 986, 1963. Pp. 97-108.

Botwinick, J., Brinley, J. F., & Robbin, J. S. Modulation of speed of response with age. Journal of Genetic Psychology, 1959, 95, 137-144

Clark, J. A., & King, G. F. Perceptual and motor speed in an extended age group: A factor analysis. Perceptual and Motor Skills, 1960, 11, 99-102.

Clement, F. A psychomotor learning test: Influence of age, sex and intellectual level. In, C. Tibbitts & W. Donahue (Eds.), Social and psychological aspects of aging. New York: Columbia University Press 1962. Pp. 795-800.

Ehinger, G. Age et declin des aptitudes. Archives de Psychologie, 1927, 20, 318-323.

Ehinger, G. Declin des aptitudes avec l'age. Archives de Psychologie, 1931, 23, 67-73.

Gilbert, J. G., & Levee, R. F. Age differences on the Bender Visual Motor Gestalt Test and the Archimedes Spiral Test. Journal of Gerontology 1965, 20, 196-200.

Guertin, W. H. Effects of sampling on dimensionality: A discussion of "Perceptual and motor speed in an extended age group: A factor analysis." Perceptual and Motor Skills, 1960, 11, 189-190.

Hanman, B. The performance of adult males on the Minnesota Paper Form Board Test and the O'Rourke Mechanical Aptitude Test. Journal of Applied Psychology, 1942, 26, 809-811.

Isaacs, B., & Walkey, F. A. A simplified performance test for elderly hospital patients. Journal of American Geriatric Society, 1963, 11, 1089-1094.

King, G. F., & Campos, L. P. Note on age and intertrial variability for perceptual and motor speed tests. Perceptual and Motor Skills, 1960, 11, 206.

Kleemeier, R. W. Age changes in psychomotor capacity and productivity. Journal of Business, 1954, 27, 146-155.

Kleemeier, R. W., & Jones, A. Age related differences in psychomotor performance and job productivity paper presented at the 6th International Congress of Gerontology, Copenhagen, 1963.

Kleemeier, R. W., Rich, T. A., & Justiss, W. A. The effects of alpha (2-piperidyl) benzhydrol hydrochloride (Meratran) on psychomotor performance in a group of aged males. Journal of Gerontology, 1956, 11, 165-170.

Kubo, Y. Mental and physical changes in old age. *Journal of Genetic Psychology*, 1938, 53, 101-118.

Lakin, M. Clinical use of the Bender Visual Motor Test in psychologic assessment of the aged. *Journal of the American Geriatric Society*, 1956, 4, 909-919.

Lofchie, S. H. The performance of adults under distraction stress: A developmental approach. *Journal of Psychology*, 1955, 39, 109-116.

McFarland, R. A. Psychological implications of aging in airline pilots. *Journal of Gerontology*, 1948, 3 (4 suppl.), 9. (Abstract)

McFarland, R. A. Psycho-physiological problems of aging in air transport pilots. *Journal of Aviation Medicine*, 1954, 25, 210-220.

Miles, W. R. Performance in relation to age. *Public Health Reports*, Washington, Suppl. 168, 1942, 34-42.

Pacaud, S. The structure of psychological and psychomotor functions in relation to age, in the light of factor analysis. In C. Tibbitts & W. Donahue (Eds.), *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 826-830.

STUDIES ON INTELLIGENCE AND TEST BEHAVIOR

BIOLOGICAL INTELLIGENCE

Bourliere, F. Methods of measurement of biological age. In R. H. Williams, C. Tibbitts, & W. Donahue (Eds.), *Processes of aging.* New York: Atherton Press, 1963. Pp. 184-197.

Clement, F. Effect of physical activity on the maintenance of intellectual capacities. *Gerontologist*, 1966, 6, 91-92.

Falek, A., Kallmann, F. J., Lorge, I., & Jarvik, L. F. Longevity and intellectual variation in a senescent twin population. *Journal of Gerontology*, 1960, 15, 305-309.

Feingold, L. A psychometric study of senescent twins. *Dissertation Abstracts*, 1952, 12, 779-780.

Halstead, W. C. Biological intelligence and differential aging. In J. L. Webber (Ed.), *Aging: A current appraisal*. Gainesville: University of Florida Press, 1956. Pp. 63-75.

Halstead, W. C., Merryman, P., & Klein, B. The Halstead index and differential aging. In R. H. Williams, C. Tibbitts, & W. Donahue (Eds.), *Processes of aging*. New York: Atherton Press, 1963. Pp. 146-159.

Halstead, W. C., & Rennick, P. Toward a behavioral scale for biological age. In C. Tibbitts & W. Donahue (Eds.), *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 866-872.

Halstead, W. C., & Tanzi, F. Biological intelligence, blood lipids and differential aging. Paper presented at 6th International Congress of Gerontology, Copenhagen, 1963.

Jarvik, L. F. Biological differences in intellectual functioning. *Vita Humana*, 1962, 5, 195-203.

Jarvik, L. F., & Falek, A. Intellectual stability and survival in the aged. *Journal of Gerontology*, 1963, 18, 173-176.

Jarvik, L. F., Kallmann, F. J., Falek, A., & Klaber, M. M. Changing intellectual functions in senescent twins. *Acta Genetica et Statistica Medica*, 1957, 7, 421-430.

Jarvik, L F., Kallmann, F. J., & Falek, A. Intellectual changes in aged twins. *Journal of Gerontology*, 1962, 17, 289-294.

Jarvik, L. F., Kallmann, F. J., Lorge, I., & Falek, A. Longitudinal study of intellectual changes in senescent twins. In C. Tibbitts, & W. Donahue (Eds.), *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 839-859.

Kallmann, F. J., Feingold, L., & Bondy, E. Comparative adaptational, social, and psychometric data on the life histories of senescent twin pairs. *American Journal of Human Genetics*, 1951, 3, 65-73.

Kallmann, F. J., & Jarvik, L. F. Individual differences in constitution and genetic background. In J. E. Birren (Ed.), *Handbook of aging and the individual*. Chicago: University of Chicago Press, 1959. Pp. 216-263.

Kallmann, F. J., & Sander, G. Twin studies on aging and longevity. *Journal of Heredity*, 1948, 39, 349-357.

Owens, W. A., & Thompson, D. E. Differential effects of age upon intellectual functions differing in degree of genetic conditioning. *Journal of Gerontology*, 1954, 9, 303-305.

Poitrenaud, J., & Clement, F. La deterioration physiologique dans le test de retention visuelle de Benton: Resultats obtenus par 500 sujets normaux. *Psychologie Francaise*, 1965, 10, 359-368.

Reitan, R. M. Investigation of the validity of Halstead's measures of biological intelligence. *Archives of Neurology and Psychiatry*, 1955, 73, 28-35.

Reitan, R. M. Investigation of relationships between "psychometric" and biological intelligence. *Journal of Nervous and Mental Disease*, 1956, 123, 536-541.

Reitan, R. M. The relationship of the Halstead Impairment Index and the Wechsler-Bellevue total weighted score to chronologic age. *Journal of Gerontology*, 1956, 11, 447.

Shaw, D. J. The reliability and validity of the Halstead Category Test. *Journal of Clinical Psychology*, 1966, 22, 176-180.

Thompson, D. Differential effects of age upon intellectual functions differing in degree of genetic conditioning. *Proceedings*. *Iowa Academy of Science*, 1953, 60, 566-568.

STUDIES ON INTELLIGENCE AND TEST BEHAVIOR

POPULATIONS WITH ORGANIC AND FUNCTIONAL DISORDERS

Aaronson, B. S. age, intelligence, aphasia and the spiral after-effect in an epileptic population. *Journal of Clinical Psychology*, 1958, 14, 18-21.

Acklesberg, S. B. Vocabulary and mental deterioration in senile dementia. *Journal of Abnormal and Social Psychology*, 1944, 38, 393-406.

Allison, R. S. Changes in behavior and impairment of memory and intellect in later life. *Geriatrics*, 1955, 10, 306-310.

Allison, R. S. Chronic amnesic syndromes in the elderly. *Proceedings of the Royal Society of Medicine*, 1961, 54, 961-965.

Babcock, H. An experiemnt in the measurement of mental deterioration. *Archives of Psychology*, 1930, 18 (whole no. 117).

Babcock, H., & Levy, L. *Test and manual of directions for the Revised Examination for the Measurement of Efficiency of Mental Functioning*. Chicago: C. H. Stoelting Co., 1940.

Bell, A., & Zubek, J. P. The effect of age on the intellectual performance of mental defectives. *Journal of Gerontology*, 1960, 15, 285-295.

Bensberg, G. J., & Sloan, W. A study of Wechsler's concept of "normal deterioration" in older mental defectives. *Journal of Clinical Psychology*, 1950, 6, 359-362.

Benton, A. L., Weider, A., & Blauvelt, J. Performances of adult patients on the Bellevue Intelligence Scales and the Revised Stanford-Binet. *Psychiatric Quarterly*, 1941, 15, 802-806.

Berger, L., Bernstein, A., Klein, E., Cohen, J., & Lucas, G. Effects of aging and pathology on the factorial structure of intelligence. *Journal of Consulting Psychology*, 1964, 28, 199-207.

Birren, J. E. The psychological aspects of senile nervous diseases. In *4th Congress of the International Association of Gerontology*. Fidenza, Italy: Tito Mattiolli, 1957, 4, 117-124.

Birren, J. E., & Botwinick, J. Effects of age and senile psychoses upon speed of writing digits and words. *Journal of Gerontology*, 1950, 5, 383-384. (Abstract)

Birren, J. E., & Botwinick, J. The relation of writing speed to age and to the senile psychoses. *Journal of Consulting Psychology*, 1951, 15, 243-249.

Blatt, S. J. Recall and recognition vocabulary: Implications for intellectual deterioration. *Archives of General Psychiatry*, 1959, 1, 473-476.

Boehm, A. E., & Sarason, S. B. Does Wechsler's formula distinguish intellectual deterioration from mental deficiency? *Journal of Abnormal and Social Psychology*, 1947, 42, 356-358.

Botwinick, J., & Birren, J. E. The measurement of intellectual deterioration in senile psychosis and psychosis with cerebral arteriosclerosis. *American Psychologist*, 1950, 5, 364-365. (Abstract)

Botwinick, J., & Birren, J. E. Differential decline in the Wechsler-Bellevue subtests in the senile psychoses. *Journal of Gerontology*, 1951, 6, 365-368.

Botwinick, J., & Birren, J. E. The measurement of intellectual decline in the senile psychoses. *Journal of Consulting Psychology*, 1951, 15, 145-150.

Brody, A. B. A factorial study of intellectual functioning in normal and abnormal adults. *Microfilm Abstracts*, 1951, 11 (2), 445-446.

Bromley, D. B. Primitive forms of response to the matrices test. *Journal of Mental Science*, 1953, 99, 374-397.

Caird, W. K. Reverberatory activity and memory disorder. *Nature*, 1964, 201, 1150.

Caird, W. K. Memory disorder and psychological test performance in aged psychiatric patients. *Diseases of the Nervous System*, 1965, 26, 499-505.

Caird, W. K. Memory loss in the senile psychoses: Organic or psychogenic? *Psychological Reports*, 1966, 18, 788-790.

Caird, W. K., & Hannah, F. Short term memory disorder in elderly psychiatric patients. *Diseases of the Nervous System*, 1964, 25, 564-568.

Caird, W. K., & Inglis, J. The short-term storage of auditory and visual two-channel digits by elderly patients with memory disorder. *Journal of Mental Science*, 1961, 107, 1062-1069.

Caird, W. K., Laverty, S. G., & Inglis, J. Sedation and sleep thresholds in elderly patients with memory disorder. *Gerontologia Clinica*, 1963, 5, 55-62.

Caird, W. K., Sanderson, R. E., & Inglis, J. Cross-validation of a learning test for use with elderly psychiatric patients. *Journal of Mental Science*, 1962, 108, 368-370.

Cameron, D. E. Certain aspects of defects of recent memory in psychosis of the senium. *Archives of Neurology and Psychiatry*, 1940, 43, 987-992.

Cameron, D. E. The use of nucleic acid in aged patients with memory impairment. *American Journal of Psychiatry*, 1958, 114, 943.

Cameron, D. E., Sved, S., Solyom, L., & Wainrib, B. Ribonucleic acid in psychiatric therapy. In J. H. Masserman (Ed.), *Current psychiatric theories*. Vol. 4. New York: Grune and Stratton, 1964. Pp. 127-133.

Capps, H. M. Vocabulary changes in mental deterioration. *Archives of Psychology, New York*, 1939, 34 (No. 242), 81.

Cesa, Bianchi, M. Il reattivo Wechsler-Bellevue applicato alla eta involutiva. *Contributi del Lab. di Psicol. dell'Univ. Catt.*, 1955, 19, 1-61.

Cleveland, S. E., & Dysinger, D. W. Mental deterioration in senile psychosis. *Journal of Abnormal and Social Psychology*, 1944, 39, 368-372.

Coleman, K. K. The modification of rigidity in geriatric patients through operant conditioning. *Dissertation Abstracts*, 1963, 24, 2560-2561.

Corsini, R. J., & Fassett, K. K. The validity of Wechsler's Mental Deterioration Index. *Journal of Consulting Psychology*, 1952, 16, 462-468.

Crook, G. H., & Katz, L. Studies in geriatric mental illness: The intellectual functioning of aged patients and non-patients. In C. Tibbitts & W. Donahue (Eds.), Social and psychological aspects of aging. New York: Columbia U. Press, 1962. Pp. 555-567.

Davies, A. Decline in test scores as a function of aging and brain damage. Abstracts, 7th International Congress of Gerontology. Wien: Wien Medizinischen Akademie, 1966. P. 350.

Dixon, J. C. Cognitive structure in senile conditions with some suggestions for developing a brief screening test of mental status. Journal of Gerontology, 1965, 20, 41-49.

Dorken, H., Jr., & Greenbloom, G. C. Psychological investigation of senile dementia. II. The Wechsler-Bellevue Adult Intelligence Scale. Geriatrics, 1953, 8, 324-333.

Dorken, H., Jr. Psychometric differences between senile dementia and normal senescent decline. Canadian Journal of Psychology, 1954, 8, 187-194.

Dorken, H., & Kral, V. A. Psychological investigation of senile dementia. Geriatrics, 1951, 6, 151-163.

Eysenck, M. D. An exploratory study of mental organization in senility. Journal of Neurology, Neurosurgery and Psychiatry, London, 1945, 8, 15-21.

Eysenck, M. D. A study of certain qualitative aspects of problem solving behavior in senile dementia patients. Journal of Mental Science, 1945, 91, 337-346.

Eysenck, M. D. The psychological aspects of ageing and senility. Journal of Mental Science, 1946, 92, 171-181.

Eysenck, H. J., & Halstead, H. The memory function. I. A factorial study of fifteen clinical tests. American Journal of Psychiatry, 1945, 102, 174-180.

Ferraris, C. Mental deterioration in senile subjects and alterations provoked by the drug CO-186 ('W 1957') evaluated statistically with the aid of the Wechsler scale. Acta Neurologica, 1962, 17, 259-261.

Fisher, G. M., Dooley, M. D., & Silverstein, A. B. Wechsler Adult Intelligence Scale performance of familial and undifferentiated mental subnormals. Psychological Reports, 1960, 7, 268.

Fitzhugh, K. B., & Fitzhugh, L. C. Patterns of abilities in relation to abstraction ability and age in subjects with longstanding cerebral dysfunction. Journal of Gerontology, 1964, 19, 479-484.

Fitzhugh, K. B., Fitzhugh, L C., & Reitan, R. M. Influence of age upon measures of problem solving and experiential back ground in subjects with longstanding cerebral dysfunction. Journal of Gerontology, 1964, 19, 132-134.

Fox, C., & Birren, J. E. The differential decline of subtest scores of the Wechsler-Bellevue Intelligence Scale in 60-69-year-old individuals. Journal of Genetic Psychology, 1950, 77, 313-317.

Fox, C., & Birren, J. E. Intellectual deterioration in the aged: Agreement between the Wechsler-Bellevue and the Babcock-Levy. *Journal of Consulting Psychology*, 1950, 14, 305-310.

Fox, C., & Birren, J. E. The measurement of intellectual deterioration in the aged. *American Psychologist*, 1950, 5, 364. (Abstract)

Garfield, S. L., & Blek, L. Age, vocabulary level, and mental impairment. *Journal of Consulting Psychology*, 1952, 16, 395-398.

Garfield, S. L., & Fey, W. F. A comparison of the Wechsler-Bellevue and Shipley-Hartford Scales as measures of mental impairment. *Journal of Consulting Psychology*, 1948, 12, 259-264.

Granick, S. Studies in the psychology of senility--a survey. *Journal of Gerontology*, 1950, 5, 44-58.

Green, R. F., & Berkowitz, B. Changes in intellect with age: III. The relation of heterogeneous brain damage to achievement in older people. *Journal of Genetic Psychology*, 1965, 106, 349-359.

Hall, K. R. L. Conceptual impairment in depressive and organic patients of the pre-senile age group. *Journal of Mental Science*, 1952, 98, 256-264.

Hallenbeck, C. E. Comparative effects of old age and brain damage on intellectual deterioration. Unpublished doctoral dissertation, Western Reserve U., 1960.

Hallenbeck, C. E. Evidence for a multiple process view of mental deterioration. *Journal of Gerontology*, 1964, 19, 357-363.

Halstead, H. A psychometric study of senility. *Journal of Mental Science*, 1943, 89, 363-373.

Halstead, H. Mental tests in senile dementia. *Journal of Mental Science*, 1944, 90, 720-726.

Halstead, H. Abilities of male mental hospital patients. *Journal of Mental Science*, 1950, 96, 726-733.

Hamlin, R. M., & Ward, W. D. Aging hospitalization and schizophrenic intelligence. *Proceedings, 73rd Annual Convention, American Psychological Association*, 1965, 221-222.

Hebb, D. O. The effect of early and late brain injury upon test moves, and the nature of normal adult intelligence. *Proceedings of the American Philosophical Society*, 1942, 85, 275-292.

Hildreth, H. M. The effect of initial capacity on deterioration. *Psychological Bulletin*, 1937, 34, 523. (Abstract)

Hopkins, B., & Post, F. Abstract and concrete behaviorism in elderly psychiatric patients. *Journal of Gerontology*, 1951, 6 (3, Suppl.), 104.

Howell, R. J. Sex differences and educational influences on a mental deterioration scale. *Journal of Gerontology*, 1955, 10, 190-193.

Inglis, J. An experimental study of learning and "memory function" in elderly psychiatric patients. *Journal of Mental Science*, 1957, 103, 796-803.

Inglis, J. Relationships between learning and other cognitive functions: An investigation with special reference to 'memory disorder' in elderly psychiatric patients. Unpublished doctoral thesis, University of London, 1958.

Inglis, J. A paired-associate learning test for use with elderly psychiatric patients. Journal of Mental Science, 1959, 105, 440-443.

Inglis, J. Learning, retention, and conceptual usage in elderly patients with memory disorder. Journal of Abnormal and Social Psychology, 1959, 59, 210-215.

Inglis, J. Dichotic stimulation and memory disorder. Nature, 1960, 186, 181-182.

Inglis, J. Experimental-clinical method and the cognitive directors of the senium. In R. H. Williams, C. Tibbitts, & W. Donahue (Eds.), Processes of aging. Vol. I. New York: Atherton Press, 1963. Pp. 80-95.

Inglis, J., & Caird, W. K. Modified digit spans and memory disorder. Diseases of the Nervous System, 1963, 24, 46-50.

Inglis, J., & Sanderson, R. E. Successive responses to simultaneous stimulation in elderly patients with memory disorder. Journal of Abnormal and Social Psychology, 1961, 62, 709-712.

Inglis, J., & Sanderson, R. E. Immediate memory and memory disorder. In C. Tibbitts & W. Donahue (Eds.), Social and psychological aspects of aging. New York: Columbia University Press, 1962. Pp. 782-788.

Inglis, J., Shapiro, M. B., & Post, F. "Memory function" in psychiatric patients over sixty. The role of memory in tests discriminating between "functional" and "organic" groups. Journal of Mental Science, 1956, 102, 589-598.

Isaacs, B. A preliminary evaluation of a paired-associate verbal learning test in geriatric practice. Gerontologia Clinica, 1962, 4, 43-55.

Isaacs, B., & Walkey, F. A. A simplified performance test for elderly hospital patients. Journal of American Geriatric Society, 1963, 11, 1089-1094.

Isaacs, B., & Walkey, F. A. Measurement of mental impairment in geriatric practice. Gerontologia Clinica, 1964, 6, 114-123.

Jackson, C. V. Estimating impairment on Wechsler-Bellevue subtests. Journal of Clinical Psychology, 1955, 11, 137-143.

Jensen, M. B. Learning dysfunction and mental inertia in old age. Paper read at Social Science Section, Southwestern & Rocky Mountain Division, American Association for the Advancement of Science, Flagstaff, Arizona, May 1965.

Kahn, R. L., Goldfarb, A. I., Pollack, M., & Gerber, I. E. The relationship of mental and physical status in institutionalized aged persons. The American Journal of Psychiatry, 1960, 117, 120-124.

Kahn, R. L., Pollack, M., & Goldfarb, A. I. Factors related to individual differences in mental status of institutionalized aged. Psychopathology of aging. New York: Grune & Stratton, 1961. Pp. 104-113.

Kallman, F. J. Genetic aspects of mental disorders in later life. In O. J. Kaplan (Ed.), *Mental disorders in later life*. (2nd ed.) Stanford, California: Stanford University Press, 1956. Pp. 26-46.

Kaplan, O. J. Mental decline in older morons. *American Journal of Mental Deficiency*, 1943, 47, 277-285.

Kaplan, O. J. The aged subnormal. In O. J. Kaplan (Ed.), *Mental disorders in later life*. (2nd ed.) Stanford, California: Stanford University Press, 1956. Pp. 383-397.

Kaplan, O. J., Rumbaugh, D. M., Mitchell, D. C., & Thomas, E. D. Effects of level of surviving abilities, time of day, and test-retest upon psychological performance in seniles. *Journal of Gerontology*, 1963, 18, 55-59.

Kendrick, D. C. Assessment of pre-morbid intelligence of elderly patients with diffuse brain pathology. *Psychological Reports*, 1964, 15, 188.

Kendrick, D. C. Speed and learning in the diagnosis of diffuse brain damage in elderly subjects: A Bayesian statistical approach. *British Journal of Social and Clinical Psychology*, 1965, 4, 141-148.

Kendrick, D. C., Parboosingh, R., & Post, F. A synonym learning test for use with elderly psychiatric subjects: A validation study. *British Journal of Social and Clinical Psychology*, 1965, 4, 63-71.

Kent, E. G., Price, A. C., & Anderson, R. J. The performance of patients with organic brain impairment and unimpaired patients on the Army General Classification block counting test. *Journal of Gerontology*, 1963, 18, 180-181.

Kral, V. A. Neuro-psychiatric observations in an old peoples home. Studies of memory dysfunction in senescence. *Journal of Gerontology*, 1958, 13, 169-176.

Kral, V. A. Senescent memory decline and senile amnestic syndrome. *American Journal of Psychiatry*, 1958, 115, 361-362.

Kral, V. A. Types of memory dysfunction in senescence. *Psychiatric Research Reports*, 1959, 11, 30-40.

Kral, V. A. Senescent forgetfulness: Benign and malignant. *Canadian Medical Association Journal*, 1962, 86, 257-260.

Kral, V. A., Cahn, C., & Mueller, H. Senescent memory impairment and its relation to the general health of the aging individual. *Journal of the American Geriatric Society*, 1964, 12, 101-113.

Kral, V. A., & Wigdor, B. T. Further studies on the androgen effect on senescent memory function. *Canadian Psychiatric Association Journal*, 1961, 6, 345-352.

Lakin, M. Clinical use of the Bender Visual Motor Test in psychologic assessment of the aged. *Journal of the American Geriatrics Society*, 1956, 4, 909-919.

Lifshitz, K. Problems in the quantitative evaluation of patients with psychoses of the senium. *Journal of Psychology*, 1960, 49, 295-303.

Lorge, I. The influence of the test upon the nature of mental decline as a function of age. *Journal of Educational Psychology*, 1936, 27, 100-110.

Lorge, I. Aging and intelligence. *Proceedings of the Association of Research on Nervous and Mental Disorders*, 1956, 35, 46-66.

Lovett Doust, J. W., Schneider, R. A., Talland, G. A., & Walsh, M. A. Studies on the physiology of awareness. The correlation between intelligence and anoxemia in senile dementia. *Journal of Nervous and Mental Disease*, 1953, 117, 383-397.

Mackay, H. A. Operant techniques applied to disorders of the senium. Unpublished doctoral dissertation, Queen's University, 1965.

Mackay, H. A., & Inglis, J. The reinforcement of simple responses in elderly psychiatric patients with and without memory disorder. Paper read at the meeting of The Eastern Psychological Association, Atlantic City, 1965.

Magaret, A., & Simpson, M. M. A comparison of two measures of deterioration in psychotic patients. *Journal of Consulting Psychology*, 1948, 12, 265-269.

McAdam, W., & Robinson, R. A. Senile intellectual deterioration and electroencephalogram: A quantitative correlation. *Journal of Mental Science*, 1956, 102, 819-825.

McAdam, W., & Robinson, R. A. Prognosis in senile deterioration. *Journal of Mental Science*, 1957, 103, 821-823.

Meer, B., & Baker, J. A. Reliability of measurements of intellectual functioning of geriatric patients. *Journal of Gerontology*, 1965, 20, 410-414.

Milne, G. G. Deterioration and over-learning. *Australian Journal of Psychology*, 1956, 8, 163-172.

Misiak, H., & Loranger, A. W. Cerebral dysfunction and intellectual impairment in old age. *Science*, 1961, 134, 1518-1519.

Nascher, I. L. Evidences of senile mental development. *American Journal of Clinical Medicine*, 1915, 22, 541-545.

Newcombe, F., & Steinberg, B. Some aspects of learning and memory function in older psychiatric patients. *Journal of Gerontology*, 1964, 19, 490-493.

Olin, T. D. The use of age-scaled scores in the determination of IQ equivalents on the Wechsler Adult Intelligence Scale. *Psychological Newsletter, NYU*, 1958, 9, 154-159.

Olson, R. W. A comparison of mental deterioration and intellectual functioning in senescent and brain-damaged subjects. *Dissertation Abstracts*, 1957, 17, 1813-1814.

Orme, J. E. Intellectual and Rorschach test performances of a group of senile dementia patients and of a group of elderly depressives. *Journal of Mental Science*, 1955, 101, 863-870.

Orme, J. E. Non-verbal and verbal performance in normal old age, senile dementia, and elderly depression. *Journal of Gerontology*, 1957, 12, 408-413.

Parker, J. W. The validity of some current tests for organicity. *Journal of Consulting Psychology*, 1957, 21, 425-428.

Pelz, K., Ames, L. B., & Pike, F. Measurement of psychologic function in geriatric patients. *Journal of the American Geriatric Society*, 1961, 9, 740-754.

Pelz, K., Pike, F., & Ames, L. B. A proposed battery of childhood tests for discriminating between different levels of intactness of function in elderly subjects. *Journal of Genetic Psychology*, 1962, 100, 23-40.

Pichot, P., & Rennes, P. Abaque pour le calcul de la deterioration mentale. (Abacus for the calculation of mental deterioration.) *Revue de Psychologie Appliquee*, 1952, 2, 313-318.

Pinkerton, P., & Kelly, J. An attempted correlation between clinical and psychometric findings in senile arteriosclerotic dementia. *Journal of Mental Science*, 1952, 98, 244-255.

Pollack, B. The validity of the Shipley-Hartford Retreat test for "deterioration." *Psychiatric Quarterly*, 1942, 16, 119-131.

Post, F. Mental aspects of senescence. *British Medical Bulletin*, 1949, 6, 54-57.

Rabin, A. I. The relationship between vocabulary levels and levels of general intelligence in psychotic and non-psychotic individuals of a wide age-range. *Journal of Educational Psychology*, 1944, 35, 411-422.

Rabin, A. I. Psychometric trends in senility and psychoses of the senium. *Journal of General Psychology*, 1945, 32, 149-162.

Rappaport, S. R., & Webb, W. B. An attempt to study intellectual deterioration by premorbid and psychotic testing. *Journal of Consulting Psychology*, 1950, 14, 95-98.

Reed, H. B. The intelligence of epileptics. *Journal of Genetic Psychology*, 1951, 78, 145-152.

Reed, H. B. C., Jr., & Reitan, R. M. The significance of age in the performance of a complex psychomotor task by brain-damaged and non-brain-damaged subjects. *Journal of Gerontology*, 1962, 17, 193-196.

Reed, H. B. C., Jr., & Reitan, R. M. A comparison of the effects of the normal aging process with the effects of organic brain-damaged on adaptive abilities. *Journal of Gerontology*, 1963, 18, 177-179.

Reitan, R. M. The distribution according to age of a psychologic measure dependent upon organic brain functions. *Journal of Gerontology*, 1955, 10, 338-340.

Reitan, R. M. The comparative psychological significance of aging in groups with and without organic brain damage. In C. Tibbits & W. Donahue (Eds.), *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 880-887.

Riddell, S. A. The performance of elderly psychiatric patients on equivalent forms of tests of memory and learning. *British Journal of Social and Clinical Psychology*, 1962, 1, 70-71.

Riddell, S. A. The relationship between tasks of organic involvement memory impairment, and diagnosis in elderly psychiatric patients. *British Journal of Social and Clinical Psychology*, 1962, 1, 228-231.

Robertson, E. E. Intellectual deterioration in middle life. *Medical Press and Circular, London*, 1958, 240, 1008-1011.

Rogers, L. S. A comparative evaluation of the Wechsler-Bellevue Mental Deterioration Index for various adult groups. *Journal of Clinical Psychology*, 1950, 6, 199-202.

Roth, M., & Hopkins, B. Psychological test performance in patients over sixty. I. Senile psychosis and the affective disorders of old age. *Journal of Mental Science*, 1953, 99, 439-450.

Sanderson, R. E., & Inglis, J. Learning and mortality in elderly psychiatric patients. *Journal of Gerontology*, 1961, 16, 375-376.

Schuster, D. B. A psychological study of a 106-year-old man; a contribution to dynamic concepts of aging and dementia. *American Journal of Psychiatry*, 1952, 109, 112-119.

Shakow, D., Dolkart, M. B., & Goldman, R. The memory function in psychoses of the aged. *Diseases of the Nervous System*, 1941, 2, 43-48.

Shapiro, M. B., Post, F., Lofving, B., & Inglis, J. "Memory function" in psychiatric patients over sixty: Some methodological and diagnostic implications. *Journal of Mental Science*, 1956, 102, 233-246.

Sharp, A. A. A statistical analysis of the validity of the Babcock test of mental deterioration. *Psychological Bulletin*, 1939, 36, 508. (Abstract)

Sherman, M. H. A brief, objective test for the measurement of mental impairment. *Journal of Genetic Psychology*, 1955, 52, 285-296.

Shipley, W. C. A self-administering scale for measuring intellectual impairment and deterioration. *Journal of Psychology*, 1940, 9, 371-377.

Shipley, W. C. Tests of intellectual impairment. B. Shipley-Institute of Living Scale for measuring intellectual impairment. In A. Weider (Ed.), *Contributions toward medical psychology.* New York: Ronald Press, 1953. Pp. 751-756.

Silverman, A. J., Busse, E. W., Barnes, R. H., Frost, L. L., & Thaler, M. B. Studies on the processes of aging: Psychologic influences on psychic functioning in elderly people. *Geriatrics*, 1953, 8, 370-376.

Silverstein, A. B. Length of hospitalization and intelligence test performance in mentally retarded adults. *American Journal of Mental Deficiency*, 1961, 66, 618-620.

Silverstein, A. B., & Mohan, P. J. Conceptual area analysis of the test performance of mentally retarded adults. *Journal of Abnormal and Social Psychology*, 1963, 66, 255-260.

Smith, H. W. The relation between the ages and intelligence of patients at the Alexandra Institution. *South African Medical Journal*, 1956, 30, 429-432.

Straumanis, J. J., Shagass, C., & Schwartz, M. Visually evoked cerebral response changes associated with chronic brain syndromes and aging. *Journal of Gerontology*, 1965, 20, 498-506.

Strong, P. N., Jr. Effects of age, education, and brain-damage on a learning digit symbol test. *Archives of General Psychiatry*, 1959, 1, 506-512.

Thompson, C. W. Decline in limit of performance among adult morons. *American Journal of Psychology*, 1951, 64, 203-215.

Tramer, L., & Bentovim, L. Clinical psychological study of senile intellectual deterioration. *Psychiatrie et Neurologie*, 1961, 141, 131-147.

Trist, E. L., Trist, V., & Brody, M. B. Discussion on the quality of intellectual test performance in intellectual deterioration. *Proceedings of the Royal Society of Medicine*, 1943, 36, 243-252.

Vinson, D. Objectivity in the assessment of psychobiologic decline. *Vita Humana*, 1961, 4, 134-142.

Walton, D. The diagnostic and predictive accuracy of the Wechsler Memory Scale in psychiatric patients over 65. *Journal of Mental Science*, 1958, 104, 1111-1118.

Walton, D. The diagnostic and predictive accuracy of the modified word learning test in psychiatric patients over 65. *Journal of Mental Science*, 1958, 104, 1119-1122.

Webb, B. The use of the Wechsler-Bellevue intelligence test in the study of mental deterioration. *Proceedings of the Iowa Academy of Science*, 1942, 49, 450-451. (Abstract)

Webb, M. W. Longitudinal sociopsychologic study of a randomly selected group of institutionalized veterans. *Journal of American Geriatric Society*, 1959, 7, 730-740.

Wechsler, D. A standardized memory scale for clinical use. *Journal of Psychology*, 1945, 19, 87-95.

Wender, L. The applicability of Binet-Simon tests in psychoses of the senium. *New York Medical Journal*, 1915, 101, 448-454.

Wetherick, N. E. Intellectual deterioration with age. In *Abstracts, 7th International Congress of Gerontology*. Wien: Wien Medizinischen Akademie, 1966. P. 352.

White, J. G., & Knox, S. J. Some psychological correlates of age and dementia. *British Journal of Social and Clinical Psychology*, 1965, 4, 259-265.

Williams, M. Studies of perception in senile dementia: Cue selection as a function of intelligence. *British Journal of Medical Psychology*, 1956, 29, 270-279.

Williams, M. A test for residual mental ability in senile dementia. *Journal of Mental Science*, 1958, 104, 783-791.

Wright, C. The nature of the decline of performance abilities in adult morons as compared with that of normal adults. Unpublished doctoral dissertation, Stanford University, 1943.

Yacorzynski, G. K. An evaluation of the postulates underlying the Babcock Deterioration Test. *Psychological Review*, 1941, 48, 261-267.

PERCEPTION

ATTENTION AND VIGILANCE

Bell, C. R., & Provins, K. A. Peripheral attention of two age groups in hot conditions. *Journal of Gerontology*, 1965, 20, 72-75.

Canestrari, R. E. The effects of aging on vigilance performance. Paper presented at the meeting of the Gerontological Society, Miami, 1962.

Canestrari, R. E. The relationship of vigilance to paced and self-paced learning in young and elderly adults. *Dissertation Abstracts*, 1963, 24, 2130-2131.

Comalli, P. E. Jr., Wapner, S., & Werner, H. Interfoerence effects of Stroop Color-Word Test in childhood, adulthood, and aging. *Journal of Genetic Psychology*, 1962, 100, 47-53.

Comalli, P. E., Jr., Wapner, S., & Werner, H. Interference effects of Stroop color-word test in two groups of aged, one institutionalized and the other living in the community. *American Psychologist*, 1960, 15, 407. (Abstract)

Davies, D. R., & Griew, S. A further note on the effect of aging on auditory vigilance performance: The effect of low signal frequency. *Journal of Gerontology*, 1963, 18, 370-371.

Davies, D. R., & Griew, S. Age and vigilance. In, A. T. Welford & J. E. Birren (Eds.), *Behavior, aging, and the nervous system*. Springfield, Illinois: C. C. Thomas, 1965. Pp. 54-59.

Griew, S., & Davies, D. R. Effect of aging in auditory vigilance performance. *Journal of Gerontology*, 1962, 17, 88-90.

Hulicka, I. M. Age differences for intentional and incidental learning and recall scores. *Journal of American Geriatric Society*, 1965, 13, 639-649.

Inglis, J. Influence of motivation, perception, and attention on age related changes in short-term memory. *Nature*, 1964, 204, 103-104.

Jerison, H. J., & Pickett, R. M. Vigilance: A review and re-evaluation. *Human Factors*, 1963, 5, 211-238.

Platonoff, K. I. (Experimental psychological investigation of the capacity for concentration in old age.) *Obozrenie psikhiiatric, nevrologii I eksperimentalnoi psikhologii*. Petrograd, 1911, 16, 204-216.

Surwillo, W. W., & Quilter, R. E. The relation of frequency of spontaneous skin potential responses to vigilance and to age. *Psychophysiology*, 1965, 1, 272-276.

Surwillo, W. W., & Quilter, R. E. Vigilance, age, and response time. *American Journal of Psychology*, 1964, 77, 614-620.

Surwillo, W. W. The relation of autonomic activity to age differences in vigilance. *Journal of Gerontology*, 1966, 21, 257-260.

Talland, G. A. Visual signal detection as a function of age, input rate, and signal frequency. *Journal of Psychology*, 1966, 63, 105-115.

Thompson, L. W., Opton, E., Jr., & Cohen, L. D. Effects of age, presentation speed, and sensory modality on performance of a "vigilance" task. *Journal of Gerontology*, 1963, 18, 366-369.

Tune, G. S. Errors of commission as a function of age and temperament in a type of vigilance task. Quarterly Journal of Experimental Psychology, 1966, 18, 358-361.

Willoughby, R. R. Incidental Learning. Journal of Educational Psychology, 1929, 20, 671-682.

Wimer, R. E. Age differences in incidental and intentional learning. Journal of Gerontology, 1960, 15, 79-82.

PERCEPTION

COMPLEX PERCEPTION

Arnhoff, F. N. Adult age difference in performance on a visual-spatial task of stimulus generalization. *Journal of Educational Psychology*, 1959, 50, 259-265.

Axelrod, S. Cognitive tasks in several modalities. In R. H. Williams, C. Tibbitts, & W. Donahue (Eds.), *Processes of aging*. Vol. 1. New York: Atherton Press, 1963. Pp. 132-145.

Axelrod, S., & Cohen, L. D. Senescence and embedded-figure performance in vision and touch. *Perceptual and Motor Skills*, 1961, 12, 283-288.

Axelrod, S., & Eisdorfer, C. Auditory time-error and context effects in the aged. In C. Tibbitts & W. Donahue (Eds.), *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 774-781.

Axelrod, S., & Eisdorfer, C. Senescence and figural after-effects in two modalities. *Journal of Genetic Psychology*, 1962, 100, 85-91.

Basowitz, H., & Korchin, S. J. Age differences in the perception of closure. *Journal of Abnormal and Social Psychology*, 1957, 54, 93-97.

Becker, W. C. The use of aniseikonic glasses as a measure of perceptual rigidity. Unpublished master's thesis, Stanford University, 1953.

Belbin, E., Belbin, R. M., & Downs, S. Age and translation process. *Bulletin de l'Association Internationale de Psychologie Applique*, 1966, 15, 39-46.

Bender, M. B., & Green, M. A. Alterations in perception in the aged. *Journal of Gerontology*, 1952, 7, 473. (Abstract)

Birren, J. E. Age changes in speed of simple responses and perception and their significance for complex behavior. In *Old age in the modern world*. London: E. & S. Livingstone, 1955. Pp. 235-247.

Birren, J. E. The significance of age changes in speed of perception and psychomotor skills. In J. E. Anderson (Ed.), *Psychological aspects of aging*. Washington, D. C.: American Psychological Association, 1955. Pp. 97-104.

Birren, J. E. Sensation, perception and modification of behavior in relation to the process of aging. In J. E. Birren, H. A. Imas, & W. F. Windle (Eds.), *The process of aging in the nervous system*. Springfield, Ill.: C. C. Thomas, 1959. Pp. 143-165.

Birren, J. E., & Botwinick, J. Speed of response as a function of perceptual difficulty and age. *Journal of Gerontology*, 1955, 10, 433-436.

Birren, J. E., Botwinick, J., Weiss, A., & Morrison, D. F. Interrelations of mental and perceptual tests given to healthy elderly men. In J. E. Birren, R. N. Butler, S. W. Greenhouse, L. Sokoloff, & M. R. Yarrow (Eds.), *Human* aging. Washington, D. C.: Public Health Service Publication No. 986, 1963. Pp. 143-156.

Bondy, M. The identifying of overlapping capital letters and age. *Abstracts. 7th International Congress of Gerontology*. Wien: Wien Medizinischen Akademie, 1966. Pp. 333-334.

Botwinick, J. A research note on the problem of perceptual modification in relation to age. Journal of Gerontology, 1962, 17, 190-192.

Botwinick, J. Perceptual organization in relation to age and sex. Journal of Gerontology, 1965, 20, 224-227.

Botwinick, J., & Birren, J. E. A follow-up study of card-sorting performance in elderly men. Journal of Gerontology, 1965, 20, 208-210.

Botwinick, J., & Brinley, J. F. Age differences in relations between CFF and apparent motion. Journal of Genetic Psychology, 1963, 102, 189-194.

Botwinick, J., Brinley, J. R., & Robbin, J. S. The interaction effects of perceptual difficulty and stimulus exposure time on age differences in speed and accuracy of response. Gerontologia, 1958, 2, 1-10.

Botwinick, J., Brinley, J. F., & Robbin, J. S. Task alternation time in relation to problem difficulty and age. Journal of Gerontology, 1958, 13, 414-417.

Botwinick, J., Robbin, J. S. & Brinley, J. F. Modifying perceptions in relation to age. American Psychologist, 1958, 13, 354. (Abstract)

Botwinick, J., Robbin, J. S., & Brinley, J. F. Reorganization of perceptions with age. Journal of Gerontology, 1959, 14, 85-88.

Botwinick, J., Robbin, J. S., & Brinley, J. F. Age differences in card-sorting performance in relation to task difficulty, task set, and practice. Journal of Experimental Psychology, 1960, 59, 10-18.

Braun, H. W. Perceptual processes. In J. E. Birren (Ed.), Handbook of aging and the individual. Chicago: University of Chicago Press, 1959. Pp. 543-561.

Brebner, J. The effect of age on judgments of length. Journal of Gerontology, 1962, 17, 91-94.

Brozek, J., & Keys, A. Changes in flick-fusion frequency with age. Journal of Consulting Psychology, 1945, 9, 87-90.

Canestrari, R. E. Age differences in spacial stimulus generalization. Journal of Genetic Psychology, 1965, 106, 129-135.

Cesa-Bianchi, M., Beretta, A., Cirotti, G., & Renzi, P. Perceptual constancies and aging. In Proceedings of the 7th International Congress of Gerontology. Vol. 6, Wien: Wien Medizinischen Akademie, 1966. Pp. 127-128.

Clark, J. A., & King, G. F. Perceptual and motor speed in an extended age group: A factor analysis. Perceptual and Motor Skills, 1960, 11, 99-102.

Clarke, A. D. B., & Cooper, G. M. Age and perceptual-motor transfer of training. Perceptual and Motor Skills, 1964, 19, 849-850.

Clay, H. M. An age difficulty in separating spatially contiguous data. Journal of Gerontology, 1956, 11, 318-322.

Cohen, L. D., & Axelrod, S. The performance of young and elderly persons on embedded-figure tasks in two sensory modalities. In C. Tibbitts & W. Donahue (Eds.), Social and psychological aspects of aging. New York: Columbia University Press, 1962. Pp. 740-750.

Colgan, C. M. Critical flicker frequency, age and intelligence. American Journal of Psychology, 1954, 67, 711-713.

Comalli, P. E., Jr. Differential effects of context on perception in a young and an aged group. *Journal of Gerontology*, 1962, 17, 470. (Abstract)

Comalli, P. E., Jr. Life-span developmental studies in perception: Theoretical and methodological issues. Symposium paper presented at the meeting of The Eastern Psychological Association, Atlantic City, April, 1965.

Comalli, P. E., Jr., & Cummins, J. F. Perceptual closure in middle and old age. *Gerontologist*, 1963, 3 (3, Part II), 28.

Comalli, P. E., Jr., Wapner, S., & Werner, H. Perception of verticality in middle and old age. *Journal of Psychology*, 1959, 47, 259-266.

Comalli, P. E., Jr., Werner, H., & Wapner, S. Perception of part-whole relations in middle and old age. *American Psychologist*, 1959, 14, 349. (Abstract)

Craik, F. I. M. The effects of aging on the detection of faint auditory signals. *Abstracts, 7th International Congress of Gerontology*. Wien: Wien Medizinischen Akademie, 1966. P. 336.

Crook, M. N., Alexander, E. A., Anderson, E., Cowles, J., Hanson, J. A., & Jeffries, N. T. Age and form perception. (Report No. 57-124) U. S. Air Force School of Aviation Medicine, Randolph Air Force Base, Texas, 1958.

Crook, M. N., Devoe, D. M., Hageman, K. C., Hanson, J. A., Krulee, G. K., & Ronco, P. G. Age and the judgment of collision courses. (Report No. 57-105) U. S. Air Force School of Aviation Medicine, Randolph Air Force Base, Texas, 1957.

Crossman, E. R. F. W., & Szafran, J. Changes with age in the speed of information intake and discrimination. In F. Verzar (Ed.), *Experimentelle Alternsforschung*. Basel & Stuttgart: Birkhauser Verlag, Experentia (Suppl. IV) 1956. Pp. 128-134.

Davies, A. D. M. The perceptual maze test in a normal population. *Perceptual and Motor Skills*, 1965, 20, 287-293.

Davies, A. D. M., & Leytham, G. W. H. Perception of verticality in adult life. *British Journal of Psychology*, 1964, 55, 315-320.

Davis, R. T., Lampert, A., & Rumelhart, D. E. Perception by monkeys: Use of cues at a distance by young and old monkeys. *Psychonomic Science*, 1964, 1, 107-108.

Davis, R. T., Lovelace, W. E., & McKenna, V. V. Size constancy as a function of aging and X-ray irradiation in rhesus monkeys. *Animal Behavior*, 1964, 12, 16-24.

Davis, R. T., and McDonald, A. L. Perception of oddity by monkeys as a function of aging and radiation. *Psychological Reports*, 1962, 11, 383-386.

Eisdorfer, C., & Axelrod, S. Senescence and figural aftereffects in two modalities: A correction. *Journal of Genetic Psychology*, 1964, 104, 193-197.

Gilbert, J. G. Age changes in color matching. *Journal of Gerontology*, 1957, 12, 210-215.

Gilbert, J. G., & Levee, R. F. Age differences in visual and auditory perception. In *Proceedings of the 7th International Congress of Gerontology*. Vol. 6. Wien: Wien Medizinischen Akademie, 1966. Pp. 129-134.

Granick, S., & Friedman, A. S. Rate of decline in cognitive-perceptual functioning from middle to old age. *Gerontologist*, 1966, 6 (3, Part II), 27. (Abstract)

Griew, S. Age changes and information loss in performance of a pursuit tracking task involving interrupted preview. *Journal of Experimental Psychology*, 1958, 55, 486-489.

Griew, S. A note on the effect of interrupting auditory signals on the performance of younger and older subjects. *Gerontologia*, 1958, 2, 136-139.

Griew, S. Uncertainty as a determinant of performance in relation to age. *Gerontologia*, 1958, 2, 284-289.

Griew, S. A further note on uncertainty in relation to age. *Gerontologia*, 1959, 3, 335-338.

Griew, S. Age differences in the performance of some extended perceptual tasks. *Ergonomics*, 1962, 5, 165.

Griew, S., Fellows, J. B., & Howes, R. Duration of spiral after-effect as a function of stimulus exposure and age. *Perceptual and Motor Skills*, 1963, 17, 210.

Guertin, W. H. Effects of sampling on dimensionality: A discussion of "Perceptual and motor speed in an extended age group: A factor analysis." *Perceptual and Motor Skills*, 1960, 11, 189-190.

Hanes, B. Perceptual learning and age. *Journal of Consulting Psychology*, 1953, 17, 222-224.

Hesterly, S. O. Deviant response patterns as a function of chronological age. *Journal of Consulting Psychology*, 1963, 27, 210-214.

Hoffman, C. S., Cooper Price, A., Garrett, E. S., & Rothstein, W. Effect of age and brain damage on depth perception. *Perceptual and Motor Skills*, 1959, 9, 283-286.

Inglis, J. Influence of motivation, perception and attention on age-related changes in short-term memory. *Nature*, 1964, 204, 103-104.

King, G. F., & Campos, L. P. Note on age and intertrial variability for perceptual and motor speed tests. *Perceptual and Motor Skills*, 1960, 11, 206.

Klonoff, K., & Kennedy, M. Memory and perceptual functioning in octogenarians and nonagenarians in the community. *Journal of Gerontology*, 1965, 20, 328-333.

Korchin, S. J., & Basowitz, H. The judgment of ambiguous stimuli as an index of cognitive functioning in aging. *Journal of Personality*, 1956, 25, 81-95.

Landis, C. & Hanwi, V. Critical flicker frequence, age, and intelligence. *American Journal of Psychology*, 1956, 69, 459-461.

Leibowity, H. W., & Heisel, M. L'evolution de l'illusion de Ponzo en fonction de l'age. *Archives de Psychologie*, 1948, 36, 328-331.

Leibowity, H. W., & Judisch, J. M. The relation between age and the magnitude of the Ponzo Illusion. *American Journal of Psychology*, 1967, 80, 105-109.

Loranger, A. W. Critical flicker frequency and some intellectual functions in old age. Unpublished doctoral dissertation, Fordham University, 1958.

Loranger, A. W., & Misiak, H. Critical flicker frequency and some intellectual functions in old age. Journal of Gerontology, 1959, 14, 323-327.

Lovelace, W. E., & Davis, R. T. Minimum-seperable visual acuity of Rhesus monkeys as a function of aging and whole-body radiation with X-rays. Journal of Genetic Psychology, 1963, 103, 251-258.

Mackie, J. B., & Beck, E. C. Relations among age, intelligence, and critical flicker fusion. Perceptual and Motor Skills, 1965, 21, 875.

Mead, L. C. The influence of size of test stimuli, interpupillary distance, and age on stereoscopic depth perception. Journal of Experimental Psychology, 1943, 33, 148-158.

Mensh, I. N. Psychological aspects of aging: Perceptual research. In J. E. Anderson (Ed.), Psychological aspects of aging. Washington, D. C.: American Psychological Association, 1956. Pp. 140-146.

Miles, W. R. Age and the kinephantom. Journal of Genetic Psychology, 1934, 10, 204-207.

Misiak, H. Recent studies on the effect of aging on the fusion of intermittent light. Acta Psychologica, 1961, 19, 159-60.

Olsen, I. A. Discrimination of auditory information as related to aging. Journal of Gerontology, 1965, 20, 394-397.

Pollack, M., Kahn, R. L., & Goldfarb, A. I. Factors related to individual differences in perception in institutionalized aged subjects. Journal of Gerontology, 1958, 13, 192-197.

Pollack, R. H. Figural after-effects as a function of age. Acta Psychologica, 1960, 17, 417-423.

Price, B. The perceptual ability of persons over fifty years of age. Unpublished master's thesis, Stanford University, 1931.

Price, B. A perceptual test for comparing the performance of age groups: Preliminary report. Psychological Bulletin, 1931, 28, 584-585. (Abstract)

Rabbitt, P. M. A. Age and time for choice between stimuli and between responses. Journal of Gerontology, 1964, 19, 307-312.

Rabbitt, P. M. A. Grouping of stimuli in pattern recognition as a function of age. Quarterly Journal of Experimental Psychology, 1964, 16, 172-176.

Rabbitt, P. M. A. Set and age in a choice-response task. Journal of Gerontology. 1964, 19, 301-306.

Rabbitt, P. M. A. Age and discrimination between complex stimuli. In A. T. Welford & J. E. Birren (Eds.), Behavior, aging and the nervous system. Springfield, Illinois: C. C. Thomas, 1965. Pp. 35-53.

Rabbitt, P. M. A. An age decrement in the ability to ignore irrelevant information. Journal of Gerontology, 1965, 20, 233-238.

Rabbitt, P. M. A. Set and age: The use made of reliable and false partial advance information in a choice-reaction task. (Unpublished paper), Medical Research Council, Applied Psychological Research Unit, Cambridge.

Rabbitt, P. & Birren, J. E. Age and responses to sequences of repetitive and interruptive signals. *Journal of Gerontology*, 1967, 22, 143-150.

Rajalakshmi, R., & Jeeves, M. A. Changes in tachistoscopic form perception as a function of age and intellectual status. *Journal of Gerontology*, 1963, 18, 275-278.

Rich, T. A. Perceptual after-effects, learning and memory in an aged group. *Dissertation Abstracts*, 1958, 18, 311-312.

Riegel, K. F., Riegel, R. M., & Wendt, D. Perception and set: A review of the literature and a study of the effect of instructions and verbal habits on word recognition thresholds of young and old subjects. *Acta Psychologica*, 1962, 20, 224-251.

Rosenberg, G., & Adams, A. Effect of age on peripheral vibratory perception. *Journal of the American Geriatrics Society*, 1958, 6, 471-481.

Ross, S., Vicino, F. L., & Krugman, A. D. Effects of position in a display on problem-solving ability in aged subjects. *Journal of Gerontology*, 1960, 15, 191-194.

Shephard, A. H., Abbey, D. S., & Humphries, M. Age and sex in relation to perceptual-motor performance on several control-display relations on the TCC. *Perceptual and Motor Skills*, 1962, 14, 103-118.

Shephard, A. H. Age and control-display relations as factors in influencing change of performance on a complex perceptual motor task. Paper presented at the 6th International Congress of Gerontology, Copenhagen, 1963.

Silverman, I. Age and the tendency to withhold response. *Journal of Gerontology*, 1963, 18, 372-375.

Silverman, I., & Reimanis, G. A test of two interpretations of age deficit in the ability to reverse an ambiguous figure. *Journal of Gerontology*, 1966, 21, 89-92.

Smith, H. C. Age differences in color discrimination. *Journal of General Psychology*, 1943, 29, 191-226.

Smudski, J. F., & Braun, H. W. Changes in the gradient in visual stimulus generalization as a function of age. *American Psychologist*, 1956, 11, 374. (Abstract)

Sorenson, H. *Adult abilities in extension classes: A psychological study*. Minneapolis: The University of Minnesota Press, 1933.

Streimer, I. Age and sex as factors in ability of adults to discriminate saturation differences in the colors cyan and yellow. *Dissertation Abstracts*, 1960, 20, 3863.

Surwillo, W. W. Age and the perception of short intervals of time. *Journal of Gerontology*, 1964, 19, 322-324.

Szafran, J. Age differences in sequential decisions and cardiovascular status among pilots. *Aerospace Medicine*, 1965, 36, 303-310.

Szafran, J. Age differences in the rate of gain of information, signal detection strategy, and cardiovascular status among pilots. *Gerontologia*, 1966, 12, 6-17.

Szafran, J. Signal detection strategy and aging. *Proceedings of the 7th International Congress of Gerontology*. Vol. 6. Wien: Wien Medizinischen Akademie, 1966. Pp. 139-143.

Szafran, J., & Welford, A. T. On the relation between transfer and difficulty of initial task. *Quarterly Journal of Experimental Psychology*, 1950, 2, 88-94.

Talland, G. A. Age and the effect of anticipatory set on accuracy of perception. *Journal of Gerontology*, 1959, 14, 202-207.

Talland, G. A. Facilitation of accurate perception by anticipatory sets: The progressive effects of aging. *Gerontologia*, 1959, 3, 339-350.

Talland, G. A. Continuous performance changes with age in signal detection. *Abstracts*. *7th International Congress of Gerontology*. Wien: Wien Medizinischen Akademie, 1966. P. 335.

Thomas, J. M., & Charles, D. C. Effects of age and stimulus size on perception. *Journal of Gerontology*, 1964, 19, 447-450.

Thompson, L. W., Axelrod, S., & Cohen, L. D. Senescence and visual identification of tactual-kinesthetic forms. *Journal of Gerontology*, 1965, 20, 244-249.

Verville, E., & Cameron, N. Age and sex differences in the perception of incomplete pictures by adults. *Journal of Genetic Psychology*, 1946, 68, 149-157.

Wallace, J. G. Some studies of perception in relation to age. *British Journal of Psychology*, 1956, 47, 283-297.

Wapner, S. An organismic-developmental approach to the study of perceptual and other cognitive operations. Paper presented at the Martin Scheerer Memorial Meeting, University of Kansas, May 1962.

Wapner, S., Werner, H., & Comalli, P. E., Jr. Perception of part-whole relationships in middle and old age. *Journal of Gerontology*, 1960, 15, 412-416.

Welford, A. T. *Ageing and human skill*. London: Oxford University Press, 1958.

Weston, H. C. On age and illimination in relation to visual performance. *Transactions of the Illumination Engineering Society*, 1949, 41, 281-297.

Williams, M. Studies of perception in senile dementia: Cue selection as a function of intelligence. *British Journal of Medical Psychology*, 1956, 29, 270-279.

Wilson, T. R. Flicker-fusion frequency, age, and intelligence. *Gerontologia*, 1963, 7, 200-207.

York, C. M. Behavioral efficiency in a visual monitoring task as a function of signal rate and observer age. *Perceptual and Motor Skills*, 1962, 15, 404.

REACTION TIME

Barry, A. J., Steinmetz, J. R., Page, H. F., & Rodahl, K. The effects of physical conditioning on older individuals. II. Motor performance and cognitive function. *Journal of Gerontology*, 1966, 21, 192-199.

Birren, J. E., & Riegel, K. F. Age differences in response spaced as a function of controlled variation of stimulus conditions: Lights, numbers, letters, colors, syllables, words and word relationships. In C. Tibbitts & W. Donahue (Eds.), *Social and psychological aspects of aging*, N. Y.: Columbia University Press, 1962. Pp. 751-758.

Birren, J. E., Riegel, K. F., & Morrison, D. F. Age differences in response speed as a function of controlled variations of stimulus conditions: Evidence of a general speed factor. *Gerontologia*, 1962, 6, 1-18.

Botwinick, J. Drives, expectancies and emotions. In J. E. Birren (Ed.), *Handbook of aging and the individual*. Chicago: University of Chicago Press, 1959. Pp. 739-768.

Botwinick, J. Theories of antecedent conditions of speed of response. In A. T. Welford & J. E. Birren (Eds.), *Behavior, aging, and the nervous system*. Springfield, Ill.: C. C. Thomas, 1965. Pp. 67-87.

Botwinick, J., & Brinley, J. F. Analysis of set in relation to reaction time. *Journal of Experimental Psychology*, 1962, 63, 568-574.

Botwinick, J., & Brinley, J. F. Aspects of RT set during brief intervals in relation to age and sex. *Journal of Gerontology*, 1962, 17, 295-301.

Botwinick, J., Brinley, J. F., & Birren, J. E. Set in relation to age. *Journal of Gerontology*, 1957, 12, 300-305.

Botwinick, J., Brinley, J. F., & Robbin, J. S. The effect of motivation by electrical shocks on reaction-time in relation to age. *American Journal of Psychology*, 1958, 71, 408-411.

Botwinick, J., Brinley, J. R., & Robbin, J. S. Further results concerning the effect of motivation by electrical shocks on reaction-time in relation to age. *American Journal of Psychology*, 1959, 72, 140.

Botwinick, J., Brinley, J. F., & Robbin, J. S. Maintaining set in relation to motivation and age. *American Journal of Psychology*, 1959, 72, 585-588.

Botwinick, J., & Thompson, L. W. Components of reaction time in relation to age and sex. *Journal of Genetic Psychology*, 1966, 108, 175-183.

Botwinick, J., & Thompson, L. W. Premotor and motor components of reaction time. *Journal of Experimental Psychology*, 1966, 71, 9-15.

Botwinick, J., & Thompson, L. W. Premotor and motor components of speed of response in relation to age. *Abstracts*. *7th International Congress of Gerontology*. Wien: Wien Medizinischen Akademie, 1966, P. 334.

Botwinick, J., & Thompson, L. W. Practice of speeded response in relation to age, sex, and set. *Journal of Gerontology*, 1967, 22, 72-76.

Brebner, J., & Szafran, J. A study of the "psychological refractory phase" in relation to aging. *Gerontologia*, 1961, 5, 241-249.

Brinley, J. F., & Botwinick, J. Preparation time and choice in relation to age differences in response speed. *Journal of Gerontology*, 1959, 14, 226-228.

Brinley, J. F., Robbin, J. S., & Botwinick, J. Timing and choice in relation to age differences in response speed. *American Psychologist*, 1958, 13, 352-353. (Abstract)

Clement, F. Modification du temps de reaction simple en fonction de l'age et de quelques autres facteurs. *Revue de Psychologie Applique*, 1962, 12, 163-188.

Deupree, R. H., & Simon, J. R. Reaction time and movement time as a function of age, stimulus duration, and task difficulty. *Ergonomics*, 1963, 6, 403-411.

Freeman, G. L. CNS acuity in aging. *Psychological Reports*, 1960, 7, 98.

Goldfarb, W. An investigation of reaction time in older adults and its relationship to certain observed mental test patterns. *Contributions to Education*. No. 831. N. Y.: Teachers College, Columbia University, 1941.

Goodenough, F. L. The development of the reactive processes from early childhood to maturity. *Journal of Experimental Psychology*, 1935, 18, 431-450.

Griew, S. Information gain in tasks involving different stimulus-response relationships. *Nature*, 1958, 182, 1819.

Griew, S. Age changes in the initiation of responses *Acta Psychologica*, 1959, 15, 458. (Abstract)

Griew, S. Information transmission and age. In R. H. Williams, C. Tibbitts, & W. Donahue (Eds.), *Processes of aging*. Vol. I. N. Y.: Atherton Press, 1963. Pp. 63-79.

Griew, S. & Lynn, R. Construct 'Reactive Inhibition' in the interpretation of age changes in performance. *Nature*, 1960, 186, 182.

Miles, W. R. Correlation of reaction and coordination speed with age in adults. *American Journal of Psychology*, 1931, 43, 377-391.

Murrell, K. F. A. The effect of practice on reported age differences. *Proceedings of the 7th International Congress of Gerontology*. Vol. 6. Wien: Wien Medizinischen Akademie, 1966. Pp. 111-113.

Obrist, W. D. Simple auditory reaction time in aged adults. *Journal of Psychology*, 1953, 35, 259-266.

Riegel, K. F., & Birren, J. E. Age differences in choice reaction time to verbal stimuli. Paper presented at the 15th Annual Meeting of the Gerontological Society, Miami Beach, 1962.

Simon, J. R., & Wolf, J. D. Choice reaction time as a function of angular stimulus-response correspondence and age. *Ergonomics*, 1963, 99-105.

Suci, G. J., Davidoff, M. D., & Surwillo, W. W. Reaction time as a function of stimulus information and age. *Journal of Experimental Psychology*, 1960, 60, 242-244.

Surwillo, W. W. The relation of decision time to brain wave frequency and to age. *Electroencephalography & Clinical Neurophysiology*, 1964, 16, 510-514.

Szafran, J. Decision processes and aging. In A. T. Welford & J. E. Birren (Eds.), *Behavior, aging, and the nervous system*. Springfield, Ill.: C. C. Thomas, 1965. Pp. 21-34.

Szafran, J. Age differences in the rate of gain of information, signal detection strategy and cardiovascular status among pilots. *Gerontologia*, 1966, 12, 6-17.

PSYCHOPHYSIOLOGICAL RESEARCH

Abrams, A., Tobin, S. S., Gordon, P., Pechtel, C. & Hilkevitch, A. The effects of a European procaine preparation in an aged population: I. Psychological effects. *Journal of Gerontology*, 1965, 20, 139-143.

Axelrod, S., & Eisdorfer, C. Auditory time-error and context effects in the aged. In C. Tibbitts & W. Donahue (Ed.), *Social and psychological aspects of aging*. N. Y.: Columbia University Press, 1962, Pp. 774-781.

Barnes, R. H., Busse, E. W., & Friedman, E. L. Psychological functioning of aged individuals with normal and abnormal EEG's. II. A study of hospitalized individuals. *Journal of Nervous and Mental Disease*, 1956, 124, 585-593.

Battig, K., & Grandjean, E. Der zeitliche Ahlauf einer bedingten Fluchtreaktion bei der Ratte. *Archiv fur experimentelle Pathologie und Pharmakologie*, Leipzig, 1957, 231, 119-132.

Battig, K., & Grandjean, E. The effect of organ extracts on behavior of old rats. In A. T. Welford & J. E. Birren (Eds.), *Behavior, aging and the nervous system*. Springfield, Ill.: C. C. Thomas, 1965. Pp. 435-449.

Bennett, E. L., Rosenzweig, M. R., Krech, D., Karlson, H., Dye, N., & Ohlander,A. Individual strain and age differences in cholinesterase activity of the rat brain. *Journal of Neurochemistry*, 1958, 3, 144-152.

Birren, J. E. Psychological capacities and the process of aging in the nervous system. In *Le Vieillessement de Fonctions Psychologiques et Psychophysiologiques*. Paris: Centre National de la Recherche Scientifique, 1961. Pp. 81-96.

Birren, J. E., & Spieth, W. Age, response speed, and cardiovascular function. *Journal of Gerontology*, 1962, 17, 390-391.

Botwinick, J., & Kornetsky, C. Age differences in the frequency of the GSR during a conditioning experiment. *Journal of Gerontology*, 1959, 14, 503. (Abstract)

Botwinick, J., & Kornetsky, C. Age differences in the acquisition and extinction of the GSR. *Journal of Gerontology*, 1960, 15, 83-84.

Bourliere, F., Poitrenaud, J., & Cendron, H. Study of the favourable effect of sodium 3, 3-pentamethylane-4-hydroxybutyrate on the intellectual performance of elderly subjects. *Revue Francais de Gerontologie*, 1962, 8, 147-149.

Busse, E. W., Barnes, R. H., Friedman, E. L., & Ketty, E. J. Psychological functioning of aged individuals with normal and abnormal electroencephalograms. A study of non-hospitalized community volunteers. *Journal of Nervous and Mental Disease*, 1956, 124, 135-141.

Busse, E. W., Barnes, R. H., Silverman, A. J., Shy, G. M., Thaler, M., & Frost, L. L. Studies of the process of aging: Factors that influence the psyche of elderly persons. *American Journal of Psychiatry*, 1954, 110, 897-903.

Caldwell, B. M. An evaluation of psychological effects of sex hormone administration in aged women: II. Results of therapy after eighteen months. *Journal of Gerontology*, 1954, 9, 168-174.

Caldwell, B. M., & Watson, R. I. An evaluation of psychologic effects of sex hormone administration in aged women. I. Results of therapy after six months. *Journal of Gerontology*, 1952, 7, 228-244.

Cameron, D. E. The use of nucleic acid in aged patients with memory impairment. American Journal of Psychiatry, 1958, 114, 943.

Cameron, D. E., & Solyom, L. Effects of ribonucleic acid on memory. Geriatrics, 1961, 16, 74-81.

Cameron, D. E., Solyom, L., & Beach, L. Further studies upon the effects of the administration of ribonucleic acid in aged patients suffering from memory (retention) failure. In E. Rothlin (Ed.), Neuro-psychopharmacology. Vol. 2. Amsterdam: Elsevier Publishing Co., 1961. Pp. 351-355.

Cameron, D. E., Solyom, L., Sved, S., & Wainrib, B. Effects of intravenous administration of ribonucleic acid upon failure of memory for recent events in presenile and aged individuals. In J. Wortis (Ed.), Recent advances in biological psychiatry. Vol. 5. New York: Plenum Press, 1963. Pp. 365-374.

Cameron, D., Sved, S., Solyom, L., Waintrib, B., & Barik, H. Effects ofribonucleic acid on memory defect in the aged. American Journal of Psychiatry, 1963, 120, 320-325.

Cameron, D. E.„ Sved, S., Solyom, L., & Wainrib, B. Ribonucleic acid in psychiatric therapy. In J. H. Masserman (Ed.), Current psychiatric therapies. Vol. 4. New York: Grune and Stratton, 1964, Pp. 127-133.

Clark, J. W. The aging dimension: A factorial analysis of individual differences with age on psychological and physiological measures. Journal of Gerontology, 1960, 15, 183-187.

Cohen, S. I., & Shmavonian, B. M. Catechol Amines, vasomotor conditioning and aging. Gerontologist, 1964, 4 (3, Part II), 29. (Abstract)

Cohen, S. I., Silverman, A. J., & Shmavonian, B. M. Influence of psychodynamic factors on central nervous system functioning in young and aged subjects. Psychosomatic Medicine, 1961, 23, 123-137.

Davis, R. T. Supplementary report: Effects of age and radiation on gross behavior of monkeys. Psychological Reports, 1962, 11, 738-740.

Davis, R. T., Lovelace, W. E., & McKenna, V. V. Size constancy as a function of aging and X-ray irradiation in rhesus monkeys. Animal Behavior, 1964, 12, 16-24.

Davis, R. T., & McDonald, A. L. Perception of oddity by monkeys as a function of aging and radiation. Psychological Reports, 1962, 11, 383-386.

Doty, B. A., & Doty, L. A. Effect of age and chlorpromazine on memory consolidation. Journal of Comparative and Physiological Psychology, 1964, 57, 331-334.

Doty, B. A., & Doty, L. A. Facilitative effects of amphetamine on avoidance conditioning in relation to age and problem difficulty. Psychopharmacologia, 1966, 9, 234-241.

Doty, B. A., & Johnston, M. M. Effect of post-trial esevine administration, age and task difficulty on avoidance conditioning in rats. Psychonomic Science, 1966, 6, 101-102.

Eisdorfer, C. Psychophysiological aspects of learning in the aged: A tentative theory. Paper presented at the National Conference on Manpower Training and the Older Worker, Washington, January 1966.

Eisdorfer, C., Troyer, W. C., Jr., & Bogdonoff, M. D. The effect of the pace of the task on autonomic responses to learning in the aged. *Abstracts, 7th International Congress of Gerontology*. Wien: Wien Medizinischen Akademie, 1966. P. 333.

Eisdorfer, C., Troyer, W., & Bogdonoff, M. Verbal learning and physiologic response in the aged. In *Proceedings of the 7th International Congress of Gerontology*. Vol. 6, Wien: Wien Medizinischen Akademie, 1966. Pp. 115-118.

Federov, V. K. (On the physiological mechanism of the diminution of conditioned reflexes due to old age.) *Zhurnal Vysshei Nervnoi Deyatelnosti*, 1954, 4, 568-573.

Ferraris, C. Mental deterioration in senile subjects and alterations provoked by the drug CO-186 ('W 1597') evaluated statistically with the aid of the Wechsler scale. *Acta Neurologica*, 1962, 17, 259-261.

Furchtgott, E. Radiation as a tool in studies of behavioral age changes. In A. T. Welford & J. E. Birren (Eds.), *Behavior, aging, and the nervous system*. Springfield, Ill.: C. C. Thomas, 1965. Pp. 450-460.

Furchtgott, E. Aversive conditioning and heart rate as a function of age in the albino rat. *Abstracts, 7th International Congress of Gerontology*. Wien: Wien Medizinischen Akademie, 1966. P. 332.

Furchtgott, E., & Wechkin, S. Avoidance conditioning as a function of prenatal irradiation and age. *Journal of Comparative and Physiological Psychology*, 1962, 55, 69-72.

Gakkel, L. B., & Zinina, M. V. Changes in higher nerve functions in people over 60 years of age. *Fiziologicheskii Zhurnal SSSR*, 1953, 39, 533-539.

Gaymon, W. E. Amounts of calcium intake at different age levels: Its effect upon a learning task and susceptibility to audiogenic seizures. *Dissertation Abstracts*, 1964, 25, 1358.

Graham, T. M., Gilbert, D. H., Gold, N., & Callahan, L. G. The effect of continuous Gamma irradiation on bar pressing in old rats. *Radiation Research*, 1962, 17, 787-791.

Halstead, W., & Tanzi, F. Biological intelligence, blood lipids and differential aging. Paper presented at the 6th International Congress of Gerontology, Copenhagen, 1963.

Hecht, K. (The age-dependent effect of neserpine (o.1 mg/kg) on the course of conditioned reactions of the first and second order in rats.) *Acta Biologica et Medica Germanica*, 1960, 4, 151-158.

Inglis, J. Immediate memory, age and brain function. In A. T. Welford & J. E. Birren (Eds.), *Behavior, aging, and the nervous system*. Springfield, Ill.: C. C. Thomas, 1965. Pp. 88-113.

Jaffe, R., & Reisman, E. EEG and mental status: A correlative study in 100 aged subjects. *Electroencephalography & Clinical Neurophysiology*, 1960, 12, 245.

Jalevisto, E. On the interdependence of circulatory-respiratory and neural-mental variables. *Gerontologia*, 1965, 10, 31-37.

Jordan, J., & Sokoloff, B. Air ionization, age and maze learning of rats. *Journal of Gerontology*, 1959, 14, 344-348.

Kay, H., & Birren, J. E. Swimming speed of the albino rat: II. Fatigue, practice, and drug effects on age and sex differences. Journal of Gerontology, 1958, 13, 378-385.

Kleemeier, R. W., Rich, T. A., & Justiss, W. A. The effects of alpha (2 piperidyl) benzhydrol hydrochloride (Meratran) on psychomotor performance in a group of aged males. Journal of Gerontology, 1956, 11, 165-170.

Klove, H. The differential relationships of psychological test results to electroencephalographic criteria in older and younger age groups. In C. Tibbitts & W. Donahue (Eds.), Social and psychological aspects of aging, N. Y.: Columbia University Press, 1962. Pp. 873-879.

Korneer, G. Effect of bromine on conditioned and unconditioned reflexes in women during aging processes. Zhurnal Vysshei Nervnoi Deyatel'nosti, 1962, 12, 217-222.

Kral, V. A., & Wigdor, B. T. Androgen effect on senescent memory function. Geriatrics, 1959, 14, 450-456.

Kral, V. A., & Wigdor, B. T. Further studies on the androgen effect on senescent memory function. Canadian Psychiatric Association Journal, 1961, 6, 345-352.

Krugman, A. D., Ross, S., Vicino, F. L., & Clyde, D. J. A research note: Effects of dextro-amphetamine and meprobamate on problem solving and mood of aged subjects. Journal of Gerontology, 1960, 15, 419-420.

Krugman, A. D., Ross, S., Vicino, F. L., & Clyde, D. J. Effects of dextro-amphetamine, meprobamate, and a placebo on problem solving and mood of aged subjects. In C. Tibbitts & W. Donahue (Eds.), Social and psychological aspects of aging. N. Y.: Columbia University Press, 1962. Pp. 801-807.

Lovelace, W. E., & Davis, R. T. Minimum-seperable visual acuity of Rhesus monkeys as a function of aging and whole-body radiation with X-rays. Journal of Genetic Psychology, 1963, 103, 251-258.

Lovett Doust, J. W., Schneider, R. A., Talland, G. A., & Walsh, M. A. Studies on the physiology of awareness. The correlation between intelligence and anoxemia in senile dementia. Journal of Nervous and Mental Disease, 1953, 117, 383-397.

McAdam, W., & Robinson, R. A. Senile intellectual deterioration and electroencephalogram: A quantitative correlation. Journal of Mental Science, 1956, 102, 819-825.

McAdam. W., & Robinson, R. A. Prognosis in senile deterioration. Journal of Mental Science, 1957, 103, 821-823.

McFarland, R. A. Psycho-physiological problems of aging in air transport pilots. Journal of Aviation Medicine, 1954, 25, 210-220.

Meier, G. W., Foshee, D. P., Matheny, A. P., Jr., & Carr, F. Irradiation and aging: Behavioral implications. Radiation Research, 1962, 16, 130-137.

Mize, D. A. The effects of occipital ablations at various ages on the acquisition of a conditioned avoidance response in the rat. Dissertation Abstracts, 1963, 24, 2578.

Mundy-Castle, A. C. Central excitability in the aged. In H. T. Blumenthal (Ed.), Aging around the world: Medical and clinical aspects of aging. Vol. 4. New York: Columbia University Press, 1962. Pp. 575-595.

Nodine, J., Shulkin, M., Slap, J., Cohen, L., Levine, M., & Frieberg, K. Lack of effect of ribonucleic acid in senile brain disease: A double-blind controlled study. Paper read at 6th International Congress of Gerontology, Copenhagen, Denmark, 1963.

Norris, A. S., & Pearlman, A. Capillary morphology and performance on Trail Making Test in the elderly: A preliminary report. *Journal of Gerontology*, 1965, 20, 76-77.

Obrist, W. D., & Busse, E. W. The Electroencephalogram in old age. In W. P. Wilson (Ed.), *Application of electroencephalography in psychiatry*. Durham, N. C.: Duke University Press, 1965. Pp. 185-205.

Obrist, W. D., Busse, E. W., Eisdorfer, C., & Kleemeier, R. W. Relation of the electroencephalogram to intellectual function in senescence. *Journal of Gerontology*, 1962, 17, 197-206.

Obrist, W. D., & Henry, C. E. Electroencephalographic findings in aged psychiatric patients. *Journal of Nervous and Mental Disease*, 1958, 126, 254-267.

Obrist, W. D., Kleemeier, R. W., Justiss, W. A., & Henry, C. E. A longitudinal study of EEG-intelligence test correlations in old age. *Excerpta med.*, International Congress Series, 1963, 57, 19-20.

Paramonova, I. P. (Age factor in correlation between the two signaling systems.) *Zhurnal Vysshei Nervnoi Deyatel'nosti*, 1957, 7, 651-657.

Pauker, J. D., Kheim, T., Mensh, I. N., & Kountz, W. B. Sex hormone replacement in the aged: I. Psychological and medical evaluation of administration of androgen-estrogen and androgen-estrogen combined with reserpine. *Journal of Gerontology*, 1958, 13, 389-397.

Pechtel, C., Masserman, J. H., & Aarons, L. Differential responses in young vs. old animals to training, conflict, drugs and brain lesions. *American Journal of Psychiatry*, 1960, 116, 1018-1020.

Powell, A. H., Eisdorfer, C., & Bogdonoff, M. D. Physiologic response patterns observed in a learning task. *Archives of General Psychiatry*, 1964, 10, 192-195.

Reitan, R. M. Blood cholesterol and chronological age levels in repeated psychological examinations of 156 subjects. Paper presented at the meeting of the American Psychological Association, 1961.

Reitan, R. M., & Shipley, R. E. The relationship of serum cholesterol changes to psychological abilities. *Journal of Gerontology*, 1963, 18, 350-357.

Rosenzweig, M. R., Bennet, E. L., & Krech, D. Cerebral effects of environmental complexity and training among adult rats. *Journal of Comparative and Physiological Psychology*, 1964, 57, 438-439.

Samtsova, A. V. Influence of testrone propionate on the conditioned and unconditioned reflexes of men from 59 to 72 years old. *Probl. Endokr. Moskva*. 1957, 3, 6-11.

Shmavonian, B. M. Methodological study of vasomotor conditioning in human subjects. *Journal of Comparative and Physiological Psychology*, 1959, 52, 315-321.

Shmavonian, B. M., & Busse, E. W. Psychophysiological techniques in the study of the aged. In R. H. Williams, C. Tibbitts, & W. Donahue (Eds.), *Processes of aging*. Vol. 1. New York: Atherton Press, 1963, Pp. 160-183.

Shmavonian, B. M., Miller, L. H., & Cohen, S. I. Age, sex and cognitive variables in autonomic conditioning. Abstracts, 7th International Congress of Gerontology. Wien: Wien Medizinischen Akademie, 1966. P. 341-342.

Shmavonian, B. M., Yarmat, A. J., & Cohen, S. I. Relationships between the autonomic nervous system and central nervous system in age differences in behavior. In A. T. Welford, & J. E. Birren (Eds.), Behavior, aging, and the nervous system. Springfield, Ill.: C. C. Thomas, 1965. Pp. 235-258.

Silverman, A. J., Busse, E. W., & Barnes, R. H. Studies in the processes of aging: Electroencephalographic findings in 400 elderly subjects. Electroencephalography & Clinical Neurophysiology, 1955, 7, 67-74.

Solyom, L., & Gallay, H. M. Effect of malononitrile dimer on operant and classical conditioning of aged white rats. International Journal of Neuropsychiatry, 1966, 2, 577-584.

Spieth, W. Cardiovascular health status, age, and psychological performance. Journal of Gerontology, 1964, 19, 277-284.

Stone, C. P., & Commius, W. D. The effect of castration at various ages upon the learning ability of male albino rats. II. Relearning after an interval of one year. Journal of Genetic Psychology, 1936, 48, 20-28.

Straumanis, J. J., Shagass, C., & Schwartz, M. Visually evoked cerebral response changes associated with chronic brain syndromes and aging. Journal of Gerontology, 1965, 20, 498-506.

Surwillo, W. W. The relation of decision time to brain wave frequency and to age. Electroencephalography & Clinical Neurophysiology, 1964, 16, 510-514.

Surwillo, W. W., & Quilter, R. E. The relation of frequency of spontaneous skin potential responses to vigilance and to age. Psychophysiology, 1965, 1, 272-276.

Surwillo, W. W. The relation of autonomic activity to age differences in vigilance. Journal of Gerontology, 1966, 21, 257-260.

Szafran, J. Age differences in sequential decisions and cardiovascular status among pilots. Aerospace Medicine, 1965, 36, 303-310.

Szafran, J. Age differences in the rate of gain of information, signal detection strategy and cardiovascular status among pilots. Gerontologia, 1966, 12, 6-17.

Talland, G. A., Mendelson, J. H., Koz, G., & Aaron, R. Experimental studies of the effects of tricyanoaminopropene on the memory and learning capacities of geriatric patients. Journal of Psychiatric Research, 1965, 3, 171-179.

Tattan, J. V. Effects of electroshock convulsions on learning in rats as a function of age. Journal of Comparative and Physiological Psychology, 1957, 50, 405-407.

Thaler, M. Relationships among Wechsler, Weigl Rorschach, EEG findings, and abstract-concrete behavior in a group of normal aged subjects. Journal of Gerontology, 1957, 11, 404-409.

Thaler, M., & Frost, L. L. Physiological and psychological correlates of aging. American Psychologist, 1953, 8, 446.

Thompson, L. W., & Wilson, S. W. Electrocortical reactivity and learning in the elderly. *Journal of Gerontology*, 1966, 21, 45-51.

Thompson, R. The effect of ECS on retention in young and adult rats. *Journal of Comparative and Physiological Psychology*, 1957, 50, 644-646.

Thompson, R., Hanavey, F., Pennington, D. F., Smith, J., Jr., Gannon, D., & Stockwell, F. An analysis of the differential effects of ECS on memory in young and adult rats. *Canadian Journal of Psychology*, 1958, 12, 83-96.

Troyer, W., Eisdorfer, C., Wilkie, F., & Bogdonoff, M. Free fatty acid responses in the aged individual during performance of learning tasks. *Journal of Gerontology*, 1966, 21, 415-419.

ACHIEVEMENT AND PRODUCTIVITY

Adams, C. W. The age at which acientists do their best work. *Isis*, 1946, 36, 166-69.

Anderson, J. E., & Goodenough, F. L. Age and sex differences in productivity of American psychologists. *Psychological Bulletin*, 1935, 32, 675-676. (Abstract)

Arpad, E. E. Age changes in master chess performance. *Journal of Gerontology*, 1965, 20, 289-299.

Barron, F. *Creativity and psychological health*. New York: Van Nostrand, 1963.

Barron, F. The disposition towards originality. *Journal of Abnormal and Social Psychology*, 1955, 51, 478-485.

Bjorksten, J. The limitation of creative years. *Scientific Monthly*, 1946, 62, 94.

Boley, J. O. "Intellectual" vs. "physical" performance: The age factor. *Journal of Gerontology*, 1946, 1, 285-286.

Breen, L. Z., & Spaeth, J. L. Age and productivity among workers in four Chicago companies. *Journal of Gerontology*, 1960, 15, 68-70.

Brown, R. A. Age and paced work. *Occupational Psychology*, 1957, 31, 11-20.

Buehler, C. The curve of life as studied in biographies. *Journal of Applied Psychology*, 1935, 19, 405-409.

Buttenwieser, P. The relation of age to skill of expert chess players. *Psychological Bulletin*, 1935, 32, 529. (Abstract)

Charles, D. C. Ability and accomplishment of persons earlier judged mentally deficient. *Genetic Psychology Monographs*, 1953, 47, 3-71.

Davis, R. A. Note on age and productive scholarship of a university faculty. *Journal of Applied Psychology*, 1954, 38, 318-319.

Dennis, W. Age and achievement: A critique. *Journal of Gerontology*, 1956, 11, 331-333.

Dennis, W. Age and productivity among scientists. *Science*, 1956, 123, 724-725.

Dennis, W. The age decrement in outstanding scientific contributions: Fact or artifact. *American Psychologist*, 1958, 13, 457-460.

Dennis, W. Creative productivity between the ages of 20 and 80 years. *Journal of Gerontology*, 1966, 21, 1-8.

Dennis, W., & Girden, E. Current scientific activities of psychologists as a function of age. *Journal of Gerontology*, 1954, 9, 175-178.

Dexter, E. G. Age and eminence. *Popular Science Monthly*, 1905, 66, 538-543.

Gill, D. G. Age and achievement. *Journal of Medical Association of Alabama*, 1954, 24, 20-22.

Heidler, J. B., & Lehman, H. C. Chronological age and productivity in various types of literature, *English Journal*, 1937, 26, 294-304.

King, H. F. An attempt to use production data in the study of age and performance. *Journal of Gerontology*, 1956, 11, 410-16.

Kirchner, W. K. Critique of Oberg's Age and achievement and the technical man. Personnel Psychology, 1961, 14, 53-58.

Kirchner, W. D., McElwain, C. S., & Dunette, M. D. A note on the relationship between age and sales effectiveness. Journal of Applied Psychology, 1960, 44, 92-93.

Kleemeier, R. W. Age changes in psychomotor capacity and productivity. Journal of Business, 1954, 27, 146-155.

Kleemeier, R. W., & Jones, A. Age related Differences in Psychomotor Performance and Job Productivity. Paper presented at the 6th International Congress of Gerontology, Copenhagen, 1963.

Lehman, H. C. The most proficient years at sports and games. Research Quarterly of the American Association of Health and Physical Education, 1938, 9, 3-19.

Lehman, H. C. The creative years; medicine, surgery, and certain related fields. Scientific Monthly, 1941, 52, 450-461.

Lehman, H. C. The creative years; oil paintings, etchings, architectural works. Psychological Review, 1942, 49, 19-42.

Lehman, H. C. Man's most creative years; then and now. Science, 1943, 98, 393-399.

Lehman, H. C. Intellectual versus physical peak performance: The age factor. Scientific Monthly, 1945, 61, 127-137.

Lehman, H. C. Age of starting to contribute versus total creative output. Journal of Applied Psychology, 1946, 30, 460-480.

Lehman, H. C. Some examples of creative achievement during maturity and old age. Journal of Social Psychology, 1949, 30, 49-79.

Lehman, H. C. Age and achievement. Princeton: Princeton University Press, 1953.

Lehman, H. C. Men's creative production rate at different ages in different countries. Science Monthly, 1954, 78, 321-326.

Lehman, H. C. Reply to Dennis' critique of age and achievement. Journal of Gerontology, 1956, 11, 333-337.

Lehman, H. C. Age and outstanding achievement in creative chemistry. Geriatrics, 1960, 15, 19-37.

Lehman, H. C. The age decrement in outstanding scientific creativity. American Psychologist, 1960, 15, 128-134.

Lehman, H. C. More about age and achievement. Gerontologist, 1962, 2, 141-148.

Lehman, H. C. Chronological age versus present-day contribution to medical progress. Gerontologist, 1963, 3, 71-75.

Lehman, H. C., & Heidler, J. B. Chronological age versus quality of literary output. American Journal of Psychology, 1949, 62, 75-89.

Manniche, E., & Falk, G. Age and the Nobel prize. Behavioral Science, 1957, 2, 301-306.

Nelson, H. The creative years. American Journal of Psychology, 1928, 40, 303-311.

Oberg, W. Age and achievement and the technical man. Personnel Psychology, 1960, 13, 245-259.

Revesz, G. L'age et le talent. In A. Michotte (Ed.), Miscellanea psychologica. Paris: Librarie Philosophique, 1947. Pp. 382-390.

Revesz, G. Hoheres Lebensalter und geistige Leistungsdraft. (Old age and mental productivity.) Universitas, 1953, 8, 685-690.

Richardson, I. M. Age and work: A study of 489 men in heavy industry. British Journal of Industrial Medicine, 1953, 10, 267-284.

Rubin, E. The age factor in chess. American Statistician, 1960, 14, 19-21.

Shriver, B. M. Age and behavior: A study of the effects of aging on aircrew performance. USAF School of Aviation Medicine, Report No. 3, Project No. 21-0202-005. February, 1953.

Simonson, E. Functional capacities of older individuals. Journal of Gerontology, 1958, 13 (Suppl. 2.)

Terman, L. M. Factors in the adult achievement of gifted men. In A. Michotte (Ed.), Miscellanea psychologica. Paris: Librarie Philosophique, 1947, Pp. 371-381.

Thumin, F. J., & Burnett, N. Academic correlates of chronolgical age. Journal of Gerontology, 1963, 18, 376-377.

van Lennep, D. J. Creativiteit en leeftijd. (Creativity and age.) Nederlands Tijdschrift voor de Psychologie en haar Grensgebieden, 1966, 21, 543-572.

EDUCATION AND INDUSTRIAL TRAINING

Anderson, J. E. Teaching and learning. In W. Donahue (Ed.), *Education for later maturity*. New York: Morrow, 1955. Pp. 60-94.

Beals, R. A., & Brody, L. *The literature of adult education*. American Association for Adult Education, 1941.

Belbin, E. Methods of training older workers. *Ergonomics*, 1958, 1, 207-221.

Belbin, E. Retraining the middle-aged. *New Society*, 1964, 3, 77, 6-8.

Belbin, E. Some studies of training older people. In P. F. Hansen (Ed.), *Age with a future*. (Proceedings of the 6th International Congress of Gerontology.) Copenhagen, Denmark: Munksgaard, 1964. Pp. 427-429.

Belbin, E. Problems of learning for the over 40's. *Gerontologia Clinica*, 1965, 7, 61-68.

Belbin, E., Belbin, R. M., & Hill, F. A comparison between the results of three different methods of operator training. *Ergonomics*, 1957, 1, 39-50.

Belbin, E., & Downs, S. M. Activity learning and the older worker. *Ergonomics*, 1964, 7, 429-437.

Belbin, E., & Downs, S. Interference effects from new learning: Their relevance to the design of adult training programs. *Journal of Gerontology*, 1965, 20, 154-159.

Belbin, E., & Downs, S. Teaching paired associates: The problem of age. *Occupational Psychology*, 1966, 40, 67-74.

Belbin, E., Downs, S., & Moore, B. Unlearning and its relationship to age. *Ergonomics*, 1964, 7, 419-427.

Belbin, E., & Shimmin, S. Training the middle-aged for inspection work. *Occupational Psychology*, 1964, 38, 49-57.

Bortz, E. L. The adult's potential for growth. *School Life*, 1961, 43, 9-11.

Carlson, A. J. Can continuous adult education add more life to the later years. In *Old Age in the Modern World*. London: E. & S. Livingstone Ltd., 1955. Pp. 610-611.

Cleugh, M. F. *Educating older people*. London: Tavistock, 1962.

Conrad, H. S. Learning, motivation and education. In J. E. Anderson (Ed.), *Psychological aspects of aging*. Washington, D. C.: American Psychological Association, 1956. Pp. 177-184.

Corey, A. F. Why educate adults? *School Life*, 1961, 43, 5-8.

Crouch, H. H. An inquiry into the relationship of achievement scores and certain variables in an adult high school. *Journal of Educational Research*, 1962, 55, 323-326.

Decrow, R. *Ability and achievement of evening college and extension students*. Chicago: Center for the Study of Liberal Education for Adults, 1959.

Donahue, W. Learning, motivation, education of the aging. In J. E. Anderson (Ed.), *Psychological aspects of aging*. Washington, D. C.: American Psychological Association, 1956. Pp. 200-206.

Draper, J. E., Strother, G. B., & Garrett, D. The effect of training and previous experience on the re-employment of military retirees. *Journal of Gerontology*, 1963, 18, 71-79.

Entwisle, D. G. Aging: The effects of previous skill on training. Occupational Psychology, 1959, 33, 238-243.

Frank, L. K. Education for aging. In W. Donahue (Ed.) Education for later maturity. New York: Whiteside Press, 1955.

Freeman, F. N. How adults learn. In L. R. Wilson (Ed.), The role of the library in adult education. Chicago: University of Chicago Press, 1937. Pp. 191-211.

Getzels, J. S. Learning theory and classroom practice in adult education. Learning Theory. Paper presented at Conference on Instruction at Syracuse University's Sagamore Conference Center, May 1956.

Goldin, F. S. The effect of program format in educational broadcasts on adult retention. Unpublished doctoral dissertation, Boston University, 1948.

Grace, A. G. The mental abilities of adults in school. Journal of Educational Research, 1931, 23, 321-324.

Griew, S. Experimental and industrial studies of aging. Bulletin of the British Psychological Society, 1958, 35, 78-79. (Abstract)

Griew, S. Some industrial and experimental studies of aging. Unpublished doctoral thesis, University of Bristol, 1958.

Heron, A. Four approaches to the study of aging in industry. Ergonomics 1962, 5, 171-177.

Houle, C. O. A time for creative pioneers. School Life, 1961, 43, 8-9.

Keppel, E. P. Education for adults. In Education for adults and other essays. New York: Columbia University Press, 1926. Pp. 9-34.

King, H. F. The response of older rural craftsmen to individual training. Journal of Gerontology, 1955, 10, 207-211.

Knox, A. B., & Sjogren, D. D. Achievement and withdrawal in university adult education classes. Adult Education, 1965, 15, 14-88.

Knox, A. B., & Sjogren, D. D. Further evidence that young adults can learn as effectively as older adults. High School Journal, 1965, 49, 73-79.

Kreps, J. M. Retraining and placement of older workers. Paper presented at the 17th annual meeting of the Gerontological Society, Minneapolis, Minnesota, 1964.

Lefever, D. W., Von Boven, A., & Banarer, J. Relation of test scores to age and education for adult workers. Educational and Psychological Measurement, 1946, 6, 351-360.

Levi, M., and Larve, E. Age, speed and accuracy, intelligence level, and several other aptitudes as related to job success of materials dispatcher employees. Perceptual and Motor Skills, 1957, 7, 213.

Loeb, M. B. Motivational patterns and educational programs. In J. E. Anderson (Ed.), Psychological aspects of aging. Washington, D. C.: American Psychological Association, 1956. Pp. 185-190.

Lorge, I. Never too late to learn. Some findings concerning interests and attitudes in adult learning. Journal of the American Association of University Women, 1937, 31, 27-32.

Lorge, I. Adult learning. Adult Education, 1952, 2, 156-159.

Lorge, I., & Kushner, R. Characteristics of adults basic to education. *Review of Educational Research*, 1950, 20, 176-181.

McLeish, J. The age factor in adult education. Leeds Institution of Education, Research Studies, 1952.

Middleton, C. J. A study of the training of the older worker at the Screw Division of G. K. N. (Midlands) Ltd. Thesis in Library of Instruction on Personnel Management, London, 1962.

Miller, M. V. *On teaching adults: An anthology*. Chicago: Center for the Study of Liberal Education for Adults, 1960.

Ouweleen, H. W. (The relationship of training and experience of driving to age.) *Nederlands Tijdschrift voor Psychologie*, 1964, 19, 20-45.

Parker, J. W., Jr. Psychological and personal history data related to accident records of commercial truck drivers. *Journal of Applied Psychology*, 1953, 37, 317-320.

Ring, C. C., & Bentley, M. The effect of training on the rate of adult reading. *American Journal of Psychology*, 1930, 42, 429-430.

Rohrbaugh, L. H., & Ring, M. D. Higher education and the aging population. *Journal of Higher Education*, 1952, 7, 149-152.

Rusalem, H. The rehabilitation potential of older disabled workers. *Journal of Counseling Psychology*, 1963, 10, 56-60.

Schonfield, A. E. D. The training of older people in industry. Cambridge, Eng.: *Nuffield Research Unit Report Number 13*, 1950.

Sheffield, S. B. The orientations of adult continuing learners. In D. Solomon (Ed.), *The continuing learner*. Boston: Center for the study of Liberal Education for Adults, 1964. Pp. 1-23.

Shooter, A. M. N., Schonfield, A. E. D., King, A. F., & Welford, A. T. Some field data on the training of older people. *Occupational Psychology*, 1956, 30, 204-215.

Sorenson, H. *Adult abilities in extension classes: A psychological study*. Minneapolis: The University of Minnesota Press, 1933.

Stewart, D. J., & Chown, S. A comparison of the effects of a continuous and a linear programmed text on adult pupils. *Occupational Psychology*, 1965, 39, 135-144.

Szafran, J., & Welford, A. T. On the problem of generalized occupational transfer effects in relation to studies of aging. *Quarterly Journal of Experimental Psychology*, 1949, 1, 160-166.

Thorndike, E. L. *Adult Education*. New York: Macmillan Company, 1936.

Tibbitts, C., & Donahue, W. T. Development in education for later maturity. *Review of Education Research*, 1953, 23, 202-217.

Tine, S., Booth, F. E., & Thune, J. Retraining older adults for employment in community services. *Gerontologist*, 1963, 3 (3), 37. (Abstract)

U. S. Department of Labor, Bureau of Labor Statistics. Industrial retraining program for technological change. A study of the performance of older workers. Washington, D. C.: Bureau of Labor Statistics Bulletin No. 1368, 1963.

Wann, M. D., Woodward, M. V., & Foster, E. M. Participation in adult education. Washington, D. C.: United States Department of Health, Education and Welfare Circular No. 539, 1959.

Willingham, W. W. The relation of age to success in flight training. *Journal of Aviation Medicine*, 1958, 29, 136-138.

METHODOLOGICAL PROBLEMS IN AGING RESEARCH

Anastasi, A. Age changes in adult test performance. Psychological Reports, 1956, 2, 509.

Arenberg, D., & Surwillo, W. W. A device for paced and self-paced visual displays. American Journal of Psychology, 79, 1966, 120.

Azima, F. C., & Kral, V. A. Effects of blindfolding on persons during psychologic testing. A psychometric study of various age groups. Geriatrics, 1960, 15, 780-792.

Bayley, N. The place of longitudinal studies in research on intellectual factors in aging. In J. E. Anderson (Ed.), Psychological aspects of aging. Washington, D. C.: American Psychological Association, 1956. Pp. 151-154.

Birren, J. E., & Riegel, K. F. Age differences in word associations and word completions in discreet and continuous, timed and untimed tasks. Paper presented at the meeting of the American Psychological Association, 1962.

Birren, J. E., Riegel, K. F., & Robbin, J. S. Age differences in continuous word associations measured by speech recordings. Journal of Gerontology, 1962, 17, 95-96.

Boehm, A. E., & Sarason, S. B. Does Wechsler's formula distinguish intellectual deterioration from mental deficiency? Journal of Abnormal and Social Psychology, 1947, 42, 356-358.

Botwinick, J. Wechsler-Bellevue split-half subtest reliabilities: Differences in age and mental status. Journal of Consulting Psychology, 1953, 17, 225-228.

Botwinick, J. Research problems and concepts in the study of aging. Gerontologist, 1964, 4, 121-129.

Bourliere, F. Assessing biological age. In R. H. Williams, C. Tibbitts, & W. Donahue (Eds.), Processes of aging. Vol. 1, New York: Atherton Press, 1963. Pp. 184-197.

Britton, P. G., & Savage, R. D. A short form of the WAIS for use with the aged. British Journal of Psychiatry, 1966, 112, 417-418.

Bromley, D. B. Aging and intellect: A non-parametric study of age differences in intellectual functions making special reference to conceptual thought and to rank order cluster analysis. Unpublished doctoral thesis, University of Liverpool, 1962.

Bromley, D. B. Some examples of nonparametric statistics in the study of age differences in intellectual decline. In C. Tibbitts & W. Donahue (Eds.), Social and psychological aspects of aging. New York: Columbia University Press, 1962. Pp. 824-831.

Burton, A., & Joel, W. Adult norms for the Watson-Glaser tests of critical thinking. Journal of Psychology, 1945, 19, 43-48.

Caird, W. K., Sanderson, R. E., & Inglis, J. Cross-validation of a learning test for use with elderly psychiatric patients. Journal of Mental Science, 1962, 108, 368-370.

Canestrari, R. E. Age changes in acquisition: Theoretical and methodological issues. Paper presented at the 18th Annual Meeting of the Gerontological Society, Los Angeles, California, 1965.

Cattell, R. B. The measurement of adult intelligence. *Psychological Bulletin*, 1943, 40, 153-193.

Clement, F. A psychomotor learning test: Influence of age, sex and intellectual level. In C. Tibbitts & W. Donahue (Eds.) *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 795-800.

Conrad, H. S., & Harris, D. The free-association method and the measurement of adult intelligence. *University of California Publications in Psychology*, 1931, 5, 1-45.

Conrad, H. S., Jones, H. E. Psychological studies of motion pictures: III. Fidelity of report as a measure of adult intelligence; IV. The technique of mental-test surveys among adults. *University Of California Publications in Psychology*, 1929, 3, 245-284.

Coppinger, N. W., & Canestrari, R. E., Jr. The influence of age on association values for the Kent-Rosanoff Word List. *Gerontologist*, 1964, 4 (3, Part II), 14. (Abstract)

Daumezon, M. G. & Moor. Remarques sur l'utilisation du test de Wechsler deterioration et inefficience. *Annales Medico-psychologiques*. Paris, 1955, 113, 94-98.

Dixon, J. C. Cognitive structure in senile conditions with some suggestions for developing a brief screening test of mental status. *Journal of Gerontology*, 1965, 20, 41-49.

Demming, J. A. Development of tests especially designed for the adult and older years. *Dissertation Abstracts*, 1956, 16, 2202-2203.

Demming, J. A., & Pressey, S. L. Tests "indigenous" to the adult and older years. *Journal of Counseling Psychology*, 1957, 4, 144-148.

Eisdorfer, C., & Cohen, L. D. The generality of the WAIS standardization for the aged: A regional comparison. *Journal of Abnormal and Social Psychology*, 1961, 62, 520-527.

Fisher, J., & Pierce, R. C. Reexamination of intellectual functioning as a concept in the assessment of the aged. *California Mental Health Research Digest*, 1965, 3, 108-109.

Foster, J. C., & Taylor, G. A. The applicability of mental tests to persons over fifty years of age. *Journal of Applied Psychology*, 1920, 4, 39-58.

Fox, C. Factors in intelligence testing in later maturity. *Journal of Gerontology*, 1947, 2, 344-346.

Garfield, J. L., & Fey, W. F. A comparison of the Wechsler-Bellevue and Shipley-Hartford Scales as measures of mental impairment. *Journal of Consulting Psychology*, 1948, 12, 259-264.

Glanzer, M. A., Glaser, R., & Folley, J. D. *Development of a test battery for the study of a age-related changes in intellectual and perceptual abilities*. Technical Appendices I and II. Pittsburgh: American Institute for Research, May 1956.

Glanzer, M., Glaser, R., & Richlin, M. Development of a test battery for study of age-related changes in intellectual and perceptual abilities. United States Air Force School of Aviation Medicine Report No. 56-138, 1958.

Hagen, E. P., & Thorndike, R. L. Normative test data for adult males obtained by house-to-house testing. *Journal of Educational Psychology*, 1955, 46, 207-216.

Hunt, W. L. The relative rates of decline of Wechsler-Bellevue "Hold" and "Don't-Hold" tests. *Journal of Consulting Psychology*, 1949, 13, 440-443.

Inglis, J. A paired-associate learning test for use with elderly psychiatric patients. *Journal of Mental Science*, 1959, 105, 440-443.

Isaacs, B. A preliminary evaluation of a paired-associate verbal learning test in geriatric practice. *Gerontologia Clinica*, 1962, 4, 43-55.

Isaacs, B., & Walkey, F. A. A simplified performance test for elderly hospital patients. *Journal of American Geriatric Society*, 1963, 11, 1089-1094.

Jenkins, J. J. Commanality of association as an indicator of more general patterns of verbal behavior. In T. A. Sebeck (Ed.), *Style in language*. New York: Wiley, 1960. Pp. 307-329.

Jensen, M. B. Administering psychological tests to the aged: An experimental study of method. V. A. Center, Hot Springs, South Dakota, 1961. (mimeographed)

Kohn, R. L., Goldfarb, A. I., Pollack, M., & Peck, A. Brief objective measures for the determination of mental status in the aged. *The American Journal of Psychiatry*, 1960, 117, 326-328.

Katz, L., & Crook, G. H. Use of the Kent EGY with an aged population. *Journal of Gerontology*, 1962, 17, 186-189.

Kausler, D. H. Comparison of anticipation and recall methods for geriatric subjects. *Psychological Reports*, 1963, 13, 702.

Kausler, D. H., & Lair, C. J. RS ("Backward") paired-associate learning in elderly subjects. *Journal of Gerontology*, 1965, 20, 29-31.

Kausler, D. H., & Lair, C. V. Associative strength and paired-associate learning in elderly subjects. *Journal of Gerontology*, 1966, 21, 278-280.

Kendrick, D. C. Speed and learning in the diagnosis of diffuse brain damage in elderly subjects: A Bayesian statistical approach. *British Journal of Social & Clinical Psychology* 1965, 4, 141-148.

Kendrick, D. C., Parboosingh, R., & Post, F. A synonym learning test for use with elderly psychiatric subjects: A validation study. *British Journal of Social & Clinical Psychology* 1965, 4, 63-71.

Kuhlen, R. G. Age and intelligence: The significance of cultural change in longitudinal versus cross-sectional findings. *Vita Humana*, 1963, 6, 113-124.

Kurihara, S. On the standardization of an intelligence test for adults. *Journal of the Science of Labour*, 1956, 32, 682-691.

Lane, M. G., & Vates, T. S., Jr. Medical selection, evaluation, and classification of subjects. In J. E. Birren, R. N. Butler, S. W. Greenhouse, L. Sokoloff, & M. R. Yarrow (Eds.), *Human aging*. Washington, D. C.: Public Health Service Publication No. 986, 1963. Pp. 11-25.

Levinson, B. M. A research note on the Knox cubes as an intelligence test for aged males. *Journal of Gerontology*, 1960, 15, 85-86.

Lorge, I. A table of percentile equivalents for eight intelligence tests frequently used with adults. *Journal of Applied Psychology*, 1936, 20, 392-395.

Lorge, I. The influence of the test upon the nature of mental decline as a function of age. *Journal of Educational Psychology*, 1936, 27, 100-110.

Lorge, I. Methodology of the study of intelligence and emotion in aging. In G. E. W. Wolstenhome & C. M. O'Connor (Eds.), *Ciba Foundation Colloquia on aging*. Vol. 3. London: J. A. Churchill, 1957. Pp. 170-187.

Mason, C. F., & Ganzler, H. Adult norms for the Shipley Institute of Living Scale and Hooper Visual Organization Test based on age and education. *Journal of Gerontology*, 1964, 19, 419-424.

McNemar, Q. On WAIS difference scores. *Journal of Consulting Psychology*, 1957, 21, 239-240.

Meer, B., & Baker, J. A. Reliability of measurements of intellectual functioning of geriatric patients. *Journal of Gerontology*, 1965, 20, 410-414.

Oberleder, M. Effects of psycho-social factors on test results of the aging. *Psychological Reports*, 1964, 14, 383-387.

Olin, T. D. The use of age-sclaed scores in the determination of IQ equivalents on the Wechsler Adult Intelligence Scale. *Psychology Newsletter, New York University*, 1958, 9, 154-159.

Owens, W. A., Jr. The retest consistency of Army Alpha after thirty years. *Journal of Applied Psychology*, 1954, 38, 154.

Palermo, D. S., Flamer, G. G., & Jenkins, J. J. Association value of responses in paired-associate learning of children and adults. *Journal of Verbal Learning and Verbal Behavior*, 1964, 3, 171-175.

Parker, J. W. The validity of some current tests for organicity. *Journal of Consulting Psychology*, 1957, 21, 425-428.

Pichot, P., & Rennes, P. Abaque pour le calcul de la deterioration mentale. (Abacus for the calculation of mental deterioration.) *Revue Psychologie Applique*, 1952, 2, 313-318.

Pollack, B. The validity of the Shipley-Hartford Retreat test for "deterioration." *Psychiatric Quarterly*, 1942, 16, 119-131.

Price, B. A perceptual test for comparing the performance of age groups: Preliminary report. *Psychological Bulletin*, 1931, 28, 584-585. (Abstract)

Reitan, R. M. Investigation of the validity of Halstead's measures of biological intelligence. *Archives of Neurology and Psychiatry*, 1955, 73, 28-35.

Reitan, R. M., The relationship of the Halstead Impairment Index and the Wechsler-Bellevue total weighted score to chronologic age. *Journal of Gerontology*, 1956, 11, 447.

Riegel, K. F. Age and cultural differences as determinants of word associations: Suggestions for their analysis. *Psychological Reports*, 1965, 16, 75-78.

Riegel, K. F., & Birren, J. E. Age differences in associative behavior. *Journal of Gerontology*, 1965, 20, 125-130.

Riegel, K. F., & Birren, J. E. Age differences in verbal associations. *Journal of Genetic Psychology*, 1966, 108, 153-170.

Riegel, K. F., & Riegel, R. M. Cross-sectional comparisons of word associations collected from age levels, 17-19, 55-64 and 65 and over. Paper presented at the meeting of the American Psychological Association, 1962.

Riegel, K. F., & Riegel, R. M. Changes in associative behavior during later years of left: A cross-sectional analysis. *Vita humana*, 1964, 7, 1-32.

Riegel, R. M., & Riegel, K. F. Standardisierung des Hamburg Wechsler-Intelligenztests (HAWIE) fuer die Altersstufen ueber 50 Jahre. (The standardization of the Hamburg Wechsler Intelligence Scale (HAWIE) for age levels above 50.) *Diagnostica*, 1959, 5, 97-128.

Rocklyn, E. H., Hessert, R. B., & Braun, H. W. Calibrated materials for verbal learning with middle and old-aged subjects. *American Journal of Psychology*, 1957, 70, 628-630.

Rokosz, S. F., & Correll, R. E. Free association responses as a function of age and stimulus frequency. *Psychological Reports*, 1966, 18, 195-199.

Ruch, F. L. The method of common points of mastery as a technique in human experimentation. *Psychological Review*, 1936, 43, 229-234.

Schaie, K. W., & Strother, C. R. Models for the prediction of age changes in cognitive behavior. *Gerontologist*, 1964, 4 (3, Part II), 14. (Abstract)

Sharp, A. A. A statistical analysis of the validity of the Babcock test of mental deterioration. *Psychological Bulletin*, 1939, 36, 508. (Abstract)

Shaw, D. J. The reliability and validity of the Halstead Category Test. *Journal of Clinical Psychology*, 1966, 22, 176-180.

Sherman, M. H. A brief objective test for the measurement of mental impairment. *Journal of General Psychology*, 1955, 52, 285-296.

Shipley, W. C. A self-administering scale for measuring intellectual impairment and deterioration. *Journal of Psychology*, 1940, 9, 371-377.

Shmavonian, B. M., & Busse, E. W. Psychophysiological techniques in the study of the aged. In R. H. Williams, C. Tibbitts, & W. Donahue (Eds.), *Processes of aging*. Vol. 1. New York: Atherton Press, 1963. Pp. 160-183.

Tresselt, M. E. The responses and frequencies of responses for 108 subjects (ages 34-41) to the Kent Rosanoff word list. *Psychological Newsletter*. *New York University*, 1949, 10, 176-212.

Tresselt, M. E. The responses and frequencies of responses for 122 subjects (ages 42-54) to the Kent-Rosanoff word list. *Journal of Psychological Studies*, 1960, 11, 118-146.

Tresselt, M. E., & Leeds, D. S. The responses and frequencies of responses for males and females (ages 18-21) to the Kent-Rosanoff list. *Psychological Newsletter*, *New York University*, 1953, 5, 1-36.

Tresselt, M. E., & Leeds, D. S. The frequencies of responses by males and females (N = 124) for each of the 100 Kent-Rosanoff stimulus words (ages 22-25). *Psychological Newsletter*, *New York University*, 1953, 5, 39-74.

Tresselt, M. E., & Leeds, D. S. The responses and frequencies of responses for males and females (ages 26-29) to the Kent-Rosanoff word list. *Psychological Newsletter*, *New York University*, 1954, 5, 144-177.

Tresselt, M. E., & Leeds, D. S. The responses and frequencies of responses for males and females (ages 30-33) to the Kent-Rosanoff word list. *Psychological Newsletter, New York University*, 1955, 6, 95-127.

Tresselt, M. E., & Mayzner, M. S. The Kent-Rosanoff word association: Word association norms as a function of age. *Psychonomic Science*, 1964, 1, 65-66.

Wallace, W. L. How the Wechsler Adult Intelligence Scale was standardized for older persons. *Journal of Gerontology*, 1955, 10, 474. (Abstract)

Wechsler, D. A standardized memory scale for clinical use. *Journal of Psychology*, 1945, 19, 87-95.

Wechsler, D. *Manual for the Wechsler Adult Intelligence Scale*. New York: Psychological Corporation, 1955.

Wesman, A. G. Standardizing an individual intelligence test on adults: Some problems. *Journal of Gerontology*, 1955, 10, 216-219.

Whiteman, M., & Jastak, J. Absolute scaling of tests for different age groupings of a state-wide sample. *Educational & Psychological Measurement*, 1957, 17, 338-346.

Whitman, J. R., Brown, C. L., & Gantt, W. H. Application of conditioning procedures in the study of aging. In *Conditioning techniques in clinical practice and research*. New York: Springer, 1964. Chapter 8.

Yacorzynski, G. K. An evaluation of the postulates underlying the Babcock Deterioration Test. *Psychological Review*, 1941, 48, 261-267.

Yates, A. J. The use of vocabulary in the measurement of intellectual deterioration--a review. *Journal of Mental Science*, 1956, 102, 409-440.

BOOKS AND LITERATURE REVIEWS

Anderson, J. E. Teaching and learning. In W. Donahue (Ed.), *Education for later maturity*. New York: Morrow, 1955. Pp. 60-94.

Anderson, J. E. (Ed.) *Psychological aspects of aging*. Washington, D. C.: American Psychological Association, 1956.

Anderson, J. E. The import of learning theory for gerontology. In R. Kastenbaum (Ed.), *Contributions to the psychology of aging*. New York: Springer Publishing Co., 1965. Pp. 45-56.

Apter, N. S. Aging and conditional reflexes. In W. H. Gantt (Ed.), *Physiological bases of psychiatry*. Springfield, Ill.: C. C. Thomas, 1958. Pp. 22-38.

Axelrod, S., & Eisdorfer, C. Auditory time-error and context effects in the aged. In C. Tibbitts & W. Donahue (Eds.), *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 774-781.

Battig, K., & Grandjean, E. The effect of organ extracts on behavior of old rats. In A. T. Welford & J. E. Birren (Eds.), *Behavior, aging, and the nervous system*. Springfield, Ill.: C. C. Thomas, 1965. Pp. 435-449.

Belbin, E. Some studies of training older people. In P. F. Hansen (Ed.), *Age with a future*. (Proceedings of the 6th International Congress of Gerontology.) Copenhagen, Denmark: Munksgaard, 1964. Pp. 427-429.

Birren, J. E. Age changes in speed of simple responses and perception and their significance for complex behavior. In *Old age in the modern world*. London: E. & S. Livingstone, 1955. Pp. 235-247.

Birren, J. E. (Ed.), *Handbook of aging and the individual*. Chicago: University of Chicago Press, 1959.

Birren, J. E. Sensation, perception and modification of behavior in relation to the process of aging. In J. E. Birren, H. A. Imas, & W. F. Windle (Eds.), *The process of aging in the nervous system*. Springfield, Ill.: C. C. Thomas, 1959. Pp. 143-165.

Birren, J. E. A theory of mental development through the life span. Paper presented at the 67th Annual Convention of the American Psychological Association, 1959.

Birren, J. E. Psychological aspects of aging. *Annual Review of Psychology*, 1960, 11, 161-198.

Birren, J. E. Adult capacities to learn. In R. G. Kuhlen (Ed.), *Psychological backgrounds of adult education*. Chicago: Center for the Study of Liberal Education for Adults, 1963. Pp. 8-42.

Birren, J. E. *The psychology of aging*. Edgewood Cliffs, New Jersey: Prentice-Hall, 1964.

Birren, J. E. (Ed.), *Relations of development and aging*. Springfield, Ill.: C. C. Thomas, 1964.

Birren, J. E., Butler, R. N., Greenhouse, S. W., Sokoloff, L., & Yarrow, M. R. *Human aging*. Washington, D. C.: Public Health Service Publication No. 986, 1963.

Birren, J. E., Jerome, E. A., & Chown, S. M. Aging and psychological adjustment: Problem solving and motivation. *Review of Educational Research*, 1961, 31, 487-499.

Birren, J. E., Riegel, K. F., & Morrison, D. F. Intellectual capacities, aging and man's environment. In R. H. Williams, C. Tibbitts, & W. Donahue (Eds.), Processes of aging. Vol. I. New York: Atherton Press, 1963. Pp. 9-44.

Botwinick, J. Drives, expectancies, and emotions. In J. E. Birren (Ed.), Handbook of aging and the individual. Chicago: University of Chicago Press, 1959. Pp. 739-768.

Botwinick, J. Theories of antecendent conditions of speed of response. In A. T. Welford & J. E. Birren (Eds.) Behavior, aging, and the nervous system. Springfield, Ill.: C. C. Thomas, 1965. Pp. 67-87.

Botwinick, J. Cognitive processes in maturity and old age. New York: Springer, 1967.

Braun, H. W. Perceptual processes. In J. E. Birren (Ed.), Handbook of aging and the individual. Chicago: University of Chicago Press, 1959. Pp. 543-561.

Brinley, J. F. Cognitive sets, speed and accuracy of performance in the elderly. In A. T. Welford & J. E. Birren (Eds.), Behavior, aging, and the nervous system. Springfield, Ill.: C. C. Thomas, 1965. Pp. 114-149.

Bromley, D. B. Research prospects in the psychology of aging. Journal of Mental Science, 1956, 102, 273-279.

Bromley, D. B. Age differences in conceptual abilities. In R. H. Williams, C. Tibbitts, & W. Donahue (Eds.), Processes of aging. Vol. I. New York: Atherton Press, 1963. Pp. 96-112.

Brozek, J. Changes in sensory, motor, and intellective function with age. Geriatrics, 1951, 6, 221-226.

Calvin, A. D., Harden, E. L., Clifford, L. T., Clifford, B., & Schultz, R. Studies in adult learning since 1930. Journal of Educational Research, 1956, 50, 273-285.

Carlson, A. J. Can continuous adult education add more life to the later years. In Old age in the modern world. London: E. S. Livingstone Ltd., 1955. Pp. 610-611.

Cattell, R. B. The measurement of adult intelligence. Psychological Bulletin, 1943, 40, 153-193.

Chown, S., & Heron, A. Psychological aspects of aging in man. Annual Review of Psychology, 1965, 16, 417-450.

Cleugh, M. F. Educating older people. London: Tavistock, 1962.

Conrad, H. S. Learning, motivation and education. In J. E. Anderson (Ed.), Psychological aspects of aging. Washington, D. C.: American Psychological Association, 1956. Pp. 177-184.

Coppinger, N. W. (Ed.), The psychological aspects of aging. A prospectus for research in the V. A. Center, Hampton, Va., May 1966.

Crook, G. H., & Katz, L. Studies in geriatric mental illness: The intellectual functioning of aged patients and non-patients. In C. Tibbitts, & W. Donahue (Eds.), Social and psychological aspects of aging. New York: Columbia University Press, 1962. Pp. 555-567.

Davies, D. R., & Griew, S. Age and vigilance. In A. T. Welford & J. E. Birren (Eds.), Behavior, aging, and the nervous system. Springfield, Ill.: C. C. Thomas, 1965. Pp. 54-59.

Dennis, W. Age and behavior. United States Air Force School of Aviation Medicine Project No. 21-0202-0005, Report No. 1, VII, 1953.

Donahue, W. T. (Ed.), *Education for later maturity*. New York: Whiteside, 1955.

Donahue, W. Learning, motivation, education of the aging. In J. E. Anderson (Ed.), *Psychological aspects of aging*. Washington, D. C.: American Psychological Association, 1956. Pp. 200-206.

Frank, L. K. Education for aging. In W. Donahue (Ed.), *Education for later maturity*. New York: Whiteside, 1955.

Gibb, J. R. Learning in the adult group. *Review of Educational Research*, 1959, 29, 256-261.

Gilbert, J. G. *Understanding old age*. New York: Ronald Press, 1952.

Gillie, A. Discussion on the aging mind. *Proceedings of the Royal Society of Medicine*, 1960, 53, 131-132.

Goshorn, R. W. Mental compromise in senescence. *Pennsylvania Medical Journal*, 1954, 57, 53-54.

Grace, A. G. Individual differences in adults. *Journal of Educational Psychology*, 1932, 23, 179-186.

Granick, S. Studies in the psychology of senility: A survey. *Journal of Gerontology*, 1950, 5, 44-58.

Gregory, R. L. "Neurological noise" as a factor in aging. In *Proceedings, 4th Congress of the International Association of Gerontology*, Vol. 1. Fidenza: Tito Mattioli, 1957. Pp. 314-324.

Guilford, J. P. *The nature of human intelligence*. New York: McGraw-Hill, 1967.

Halstead, W. C. Biological intelligence and differential aging. In J. L. Webber(Ed.), *Aging: A current appraisal*. Gainsville: University of Florida Press, 1956. Pp. 63-75.

Halstead, W. C., Merryman, P., & Klien, B. The Halstead index and differential aging. In R. H. Williams, C. Tibbitts, & W. Donahue (Eds.), *Processes of aging*. Vol. 1. New York: Atherton Press, 1963. Pp. 146-159.

Halstead, W. C., & Rennick, P. Toward a behavioral scale for biological age. In C. Tibbitts, & W. Donahue (Eds.), *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 866-872.

Hovland, C. I. Human learning and retention. In S. S. Stevens (Ed.), *Handbook of experimental psychology*. New York: Wiley, 1951. Pp. 613-689.

Humphrey, G. M. Old Age: *The results of information received respecting nearly nine hundred persons who had attained the age of eighty years, including seventy-four centenarians*. Cambridge, England: Macmillan & Bowes, 1889.

Hunter, W. S. Learning: IV. Experimental studies of learning. In C. Murchison (Ed.), *Handbook of general experimental psychology*. Worcester: Clark University Press, 1934. Pp. 497-570.

Inglis, J. Experimental-clinical method and the cognitive directors of the senium. In R. H. Williams, C. Tibbitts, & W. Donahue (Eds.), *Processes of aging*. Vol. I. New York: Atherton Press, 1963. Pp. 80-95.

Inglis, J. Imediate memory, age and brain function. In A. T. Welford & J. E. Birren (Eds.), *Behavior, aging, and the nervous system*. Springfield, Ill.: C. C. Thomas, 1965. Pp. 88-113.

Inglis, J., & Sanderson, R. E. Immediate memory and memory disorder. In C. Tibbitts, & W. Donahue (Eds.), *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 782-788.

Jerison, H. J., & Pickett, R. M. Vigilance: A review and re-evaluation. *Human Factors*, 1963, 5, 211-238.

Jerome, E. A. Age and learning-experimental studies. In J. E. Birren (Ed.), *Handbook of aging and the individual*. Chicago: University of Chicago Press, 1959. Pp. 655-699.

Jones, H. E. Age changes in adult mental abilities. In *Old age in the modern world*. London: E. & S. Livingstone, 1955. Pp. 267-274.

Jones, H. E. Problems of aging in perceptual and intellective functions. In J. E. Anderson (Ed.), *Psychological aspects of aging*. Washington, D. C.: American Psychological Association, 1956. Pp. 135-139.

Jones, H. E. Consistency and change in early maturity. *Vita Humana*, 1958, 1, 43-51.

Jones, H. E. Intelligence and problem-solving. In J. E. Birren (Ed.) *Handbook of aging and the individual*. Chicago: University of Chicago Press, 1959. Pp. 700-738.

Jones, H. E., & Bayley, N. Growth, development and decline. *Annual Review of Psychology*, 1950, 1, 1-8.

Jones, H. E., & Conrad, H. S. The growth and decline of intelligence: A study of a homogeneous group between the ages of ten and sixty. *Genetic Psychology Monographs*, 1933, 13, 233-298.

Jones, H. E., & Kaplan, O. J. Psychological aspects of mental disorders in later life. In O. J. Kaplan (Ed.), *Mental disorders in later life*. (2nd ed.) Stanford, California: Stanford University Press, 1956. Pp. 98-156.

Kallman, F. J. Genetic aspects of mental disorders in later life. In O. J. Kaplan (Ed.), *Mental disorders in later life.* (2nd ed.) Stanford, California: Stanford University Press, 1956. Pp. 26-46.

Kaplan, O. J. The psychology of maturity. In P. L. Harriman (Ed.), *Encyclopedia of Psychology*. New York: Philosophical Library, 1946. Pp. 370-378.

Kay, H. Adult learning and remembering. In B. A. Farrell (Ed.), *Experimental psychlogy*. New York: Philosophical Library, 1955. Pp. 13-23.

Kay, H. Some experiments on adult learning. In *Old age in the modern world*. London: E. & S. Livingstone, 1955. Pp. 259-267.

Kay, H. Theories of learning and aging. In J. E. Birren (Ed.), *Handbook of aging and the individual*. Chicago: University of Chicago Press, 1959. Pp. 614-654.

Krugman, A. D., Ross, S., Vicino, F. L., & Clyde, D. J. Effects of dextroamphetamine, meprobamate, and a placebo on problem solving and mood of aged subjects. In C. Tibbitts, & W. Donahue (Eds.), *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 801-807.

Kuhlen, R. G. (Ed.) *Psychological backgrounds of adult education*. Chicago: Center for the Study of Liberal Education for Adults, 1963.

Landsman, T. Differential changes in interests and learning abilities. In J. C. Dixon (Ed.), *Continuing education in the later years*. Gainesville: University of Florida Press, 1963. Pp. 26-40.

Lane, G. Adjustment to aging: Some applications of learning theory. *Gerontologist*, 1966, 6, 88-89.

Lawton, G. Mental abilities at senescence: A survey of present-day research. *Journal of Applied Psychology*, 1938, 22, 607-619.

Lawton, G. A long-range research program in the psychology of old age and aging. *Journal of Social Psychology*, 1940, 12, 101-114.

Lawton, G. Change of mental abilities with age. In *Mental health in old age*. New York: Welfare Council, 1940-1941.

Lawton, G. Aging mental abilities and their preservation. In G. Lawton (Ed.), *New goals for old age*. New York: Columbia University Press, 1943. Pp. 11-33.

Lawton, G. *New goals for old age*. New York: Columbia University Press, 1943.

Lawton, G. Mental decline and its retardation. *Journal of General Psychology*, 1945, 32, 229-248.

Lehman, H. *Age and achievement*. Princeton, New Jersey: Princeton University Press, 1953.

Lorge, I. Psychological bases for adult learning. *Teachers' College Record*, 1939, 41, 4-12.

Lorge, I. Intellectual changes during maturity and old age. *Review of Educational Research*, 1941, 11, 53-561.

Lorge, I. Intellectual changes during maturity and old age. *Review of Educational Research*, 14, 1944, 438-445.

Lorge, I. Intellectual changes during maturity and old age. *Review of Educational Research*, 1947, 17, 326-332.

Lorge, I. Adult learning. *Adult Education*, 1952, 2, 156-159.

Lorge, I. Capacities of older adults. In W. Donahue (Ed.), *Education for later maturity*. New York: Whiteside, 1955. Pp. 36-59.

Lorge, I. Intelligence and learning in aging. In J. L. Webber (Ed.), *Aging: A current appraisal*. Gainesville: University of Florida Press, 1956. Pp. 51-62.

Lorge, I. Learning, motivation and education. In J. E. Anderson (Ed.), *Psychological aspects of aging*. Washington, D. C.: American Psychological Association, 1956. Pp. 207-210.

Lorge, I. Gerontology (later maturity). *Annual Review of Psychology*, 1956, 7, 349-364.

Lorge, I., & Kushner, R. Characteristics of adults basic to education. *Review of Educational Research*, 1950, 20, 176-181.

Lorge, I., & Ruch, F. Adult Intelligence. In W. S. Monroe (Ed.), *Encyclopedia for educational research*. New York: Macmillan, 1950. Pp. 32-35.

McGeoch, J. A. *The psychology of human learning*. New York: Longmans, Green and Co., 1942.

McGeoch, J. A., & Irion, A. L. *The psychology of human learning*. (2nd ed.) New York: Longmans, Green & Co., 1952.

Miles, W. R. Abilities of older men. *Personnel Journal*, 1933, 11, 352-357.

Miles, W. R. The maintenance of our mental abilities. *Scientific Monthly*, 1933, 34, 549-552.

Miles, W. R. Age and human society. In C. Murchison (Ed.), *Handbook of social psychology*. Worcester: Clark University Press, 1935. Pp. 596-683.

Miles, W. R. Training, practice, and mental longevity. *Science*, 1935, 81, 79-87.

Miles, W. R., & Miles, C. C. Principle mental changes with normal aging. In E. J. Steiglitz (Ed.), *Geriatric medicine*. Philadelphia: Saunders, 1943. Pp. 99-117.

Montrose, H. W. *Review of adult leaving studies*. Chicago: Center for the study of Liveral Education for Adults, 1959.

Munn, N. L. *Handbook of psychological research on the rat*. Boston: Houghton Mifflin Co., 1950.

Obrist, W. D., & Busse, E. W. The Electroencephalogram in old age. In W. P. Wilson (Ed.), *Applications of electroencephalography in psychiatry*. Durham, N. C.: Duke University Press, 1965. Pp. 185-205.

Owens, W. A., Jr. Research on age and mental abilities. In J. E. Anderson (Ed.), *Psychological aspects of aging*. Washington, D. C.: American Psychological Association, 1956. Pp. 155-157.

Pacaud, S. Experimental research on the aging of psychological functions. In *Old age in the modern world*. Edinburgh: Livingstone, 1955. Pp. 279-289.

Rabbitt, P. M. A. Age and discrimination between complex stimuli. In A. T. Welford & J. E. Birren (Ed.), *Behavior, aging, and the nervous system*. Springfield, Ill.: C. C. Thomas, 1965. Pp. 35-53.

Reitan, R. M. The comparative psychological significance of aging with and without organic brain damage. In C. Tibbitts & W. Donahue (Eds.), *Social and psychological aspects of aging*. New York: Columbia University Press, 1962. Pp. 880-887.

Riegel, K. F. Ergebnisse und Probleme der psychologischen Alternsforchung: Teil II. *Vita Humana*, 1958, 1, 204-243.

Riegel, K. F. Ergebnisse und Probleme der psychologischen Alternsforchung: Teil III. *Vita Humana*, 1959, 2, 213-237.

Riegel, K. F. Speed of verbal performance as a function of age and set: A review of issues and data. In A. T. Welford & J. E. Birren (Eds.), *Behavior, aging, and the nervous system*. Springfield, Ill.: C. C. Thomas, 1965. Pp. 150-190.

Ruch, F. L. Adult learning. *Psychological Bulletin*, 1933, 30, 387-414.

Shock, N. W. *A Classified Bibliography of Gerontology and Geriatrics*. Stanford California: Stanford University Press, 1951.

Shock, N. W. *A Classified Bibliography of Gerontology and Geriatrics*. (Supplement One, 1949-1955) Stanford, California: Stanford University Press, 1957.

Shock, N. W. *A Classified Bibliography of Gerontology and Geriatrics.* (Supplement Two, 1956-1961) Stanford, California: Stanford University Press, 1963.

Siegle, P. E. Mountains, Plateaus, and valleys in adult learning. *Adult Education*, 1954, 4, 146-150.

Siegle, P. E. The adult learner. In M. V. Miller (Ed.), *On teaching adults: An anthology*. Chicago: Center for Study of Liberal Education for Adults, 1960. Pp. 62-67.

Sorenson, H. *Adult abilities*. Minneapolis: University of Minnesota Press, 1938.

Sussex, J. N. Mental changes in the aging. *Journal Medical Association, Alabama*, 1960, 30, 1-8.

Szafran, J. Decision processes and aging. In A. T. Welford & J. E. Birren (Ed.), *Behavior, aging,and the nervous system*. Springfield, Ill.: C. C. Thomas, 1965. Pp. 21-34.

Thorndike, E. L. *Adult Education*. New York: Macmillan, 1936.

Thorndike, E. L., Bregman, E. O., Tilton, J. W., & Woodward, E. *Adult learning*. New York: Macmillan, 1928.

Tibbitts, C., & Donahue, E. T. Developments in education for later maturity. *Review of educational Research*, 1953, 23, 202-217.

Verzar, F. *Lectures on experimental gerontology*. Springfield, Il.: C. C. Thomas, 1963.

Verzar-McDougall, J. Learning and memory tests for young and oldrats. In *Old age in the modern world*. London: Livingstone Ltd., 195. Pp. 247-259.

Wallin, J. E. W. The psychological, educational, and social problems of the aging as viewed by a mid-octogenarian. *Journal of Genetic Psychology*, 1962, 100, 41-46.

Wechsler, D. *Range of human capacities*. Baltimore: Williams and Wilkins, 1935.

Wechsler, D. *The measurement of adult intelligence*. (1st ed.) Baltimore: Williams and Wilkins, 1939.

Wechsler, D. *The measurement of adult intelligence*. (3rd ed.) Baltimore: Williams and Wilkins, 1944.

Wechsler, D. The measurement and evaluation of intelligence of older persons. In *Old age and the modern world*. London: E. & S. Livingstone, 1955. Pp. 275-279.

Wechsler, D. *The measurement and appraisal of adult intelligence*. (4th ed.) Baltimore, Md.: Williams and Wilkins, 1958.

Wechsler, D. Intelligence, memory and the aging process. In P. H. Hoch & J. Zubin (Eds.), *Psychopathology of aging*. New York: Grune and Stratton, 1961. Pp. 152-159.

Weisenburg, T., Roe, A., & McBride, K. E. *Adult intelligence*. New York: The Commonwealth Fund, 1936.

Welford, A. T. *Skill and age: An experimental approach*. London: Oxford University Press, 1951.

Welford, A. T. Age and learning: Theory and needed research. In *Experientia Supplementum IV. Symposium on experimental gerontology*. Basel: Birkhauser Verlag, 1956. Pp. 136-143.

Welford, A. T. *Aging and human skill*. London: Oxford University Press, 1958.

Welford, A. T. Psychomotor performance. In J. E. Birren (Ed.), *Handbook of aging and the individual*. Chicago: University of Chicago Press, 1959. Pp. 562-613.

Welford, A. T. On changes of performance with age. *Lancet*, 1962, 1, 335-339.

Whitman, J. R., Brown, C. C., & Gantt, W. H. Application of conditioning procedures in the study of aging. *Recent Advances in Biological Psychiatry*, 1961, 4, 54-57.

Whitman, J. R., Brown, C. D., & Gantt, W. H. Application of conditioning procedures in the study of aging. In *Conditioning techniques in clinical practice and research*. New York: Springer, 1964. Chapter 8.

Williams, R. H., Tibbitts, C., & Donahue, W. (Eds.), *Processes of aging*. New York: Atherton Press, 1963. 2 vols.

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